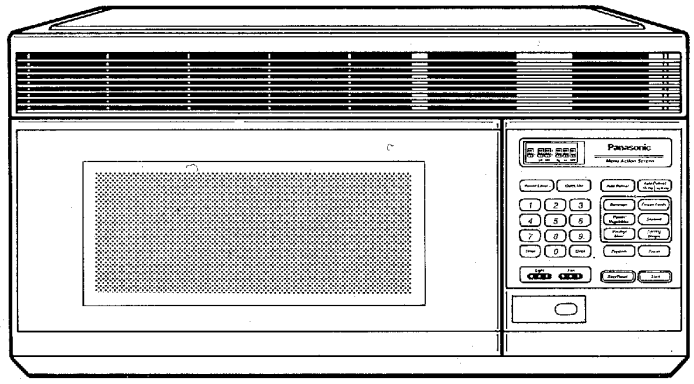
ORDER NO. MOD9501018C1
E2

Service Manual

Microwave Oven

NN-2505A, NN-2505C
NN-2555A, NN-2555C



Specifications

Power Source :	120 V AC Single Phase 60 Hz
Power Requirement :	1,500 W (13.0 A)
Output :	825 W (IEC705-88)
Microwave Frequency :	2,450 MHz
Timer :	99 min. 99 sec.
Outside Dimensions :	16-3/8" (H) × 29-15/16" (W) × 14-3/16" (D) 416 mm (H) × 760 mm (W) × 360 mm (D)
Oven Cavity Dimensions :	8-3/16" (H) × 18-5/16" (W) × 11" (D) 208 mm (H) × 465 mm (W) × 280 mm (D)
Blower Fan:	230 cfm
Weight :	59 lbs. (26.8 kg)
Specifications subject to change without notice.	

Panasonic®

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

WARNING

1. This product should be serviced only by trained qualified personnel.
2. Though this product has been manufactured in compliance with:
   "Federal Performance Standard 21 CFR Subchapter J" (D.H.H.S.): U.S.A. models
   or "Radiation Emitting Devices Act" (Health and Welfare Canada): Canadian models
   it is very important all repairs should be made in accordance with procedures described in this manual to avoid being exposed to excessive microwave radiation.
3. Check for radiation leakage before and after every servicing according to the "procedure for measuring radiation leakage".
4. If the unit cannot be repaired on site, advise the customer not to use until unit be repaired.
5. Any serviceman who learns of any accident pertaining to microwave radiation leakage including the oven operating with open door should immediately notify the appropriate address listed below and Center for Devices and Radiological Health, DHHS.

IN U.S.A. (MSC)	Matsushita Services Company 50 Meadowland Parkway, Secaucus, New Jersey 07094 Attention: Technical Service Division. (201) 348-7000	IN PUERTO RICO (PSC)	PSC San Gabriel Industrial Park 65th Infantry Ave. Km.9.5 Carolina, Puerto Rico 00985 (809) 750-4300
		IN CANADA (MELCA)	Matsushita Electric of Canada Limited 5770 Ambler Drive, Mississauga, Ontario, L4W2T3 (905) 624-5010

6. There are special components used in the microwave oven which are important for safety. These parts are marked with a ⚠ on the replacement parts list. It is essential that these critical parts should be replaced only with the manufacturer's specified parts to prevent microwave leakage, shock, fire, or other hazards. Do not modify the original design.

PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

(A) Do not operate or allow the oven to be operated with the door open.
(B) Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and make repairs as necessary:
   (1) Interlock operation
   (2) Proper door closing
   (3) Seal and sealing surfaces (arcing, wear, and other damage)
   (4) Damage to or loosening of hinges and latches.
   (5) Evidence of dropping or abuse
(C) Before turning on microwave power for any service test or inspection within the microwave generating compartments, check the magnetron, waveguide or transmission line, and cavity for proper alignment, integrity and connections.
(D) Any defective or misadjusted components in the interlock, monitor, door seal, and microwave generation and transmission systems shall be repaired, replaced, or adjusted by procedures described in this manual before the oven is released to the owner.
(E) A microwave leakage check to verify compliance with the Federal Performance Standard should be performed on each oven prior to release to the owner.

(APH/CPH)

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FEATURE CHART

	NN-2505A, NN-2505C NN-2555A, NN-2555C	MQSV1056E MQSV1056H/HC
Two/Three Stage Cooking	○	○
Auto Defrost	○	○
Auto Reheat	○	○
Auto Cooking	○	○
Popcorn	○	○
Bacon	○	○
Quick Min	○	○
Timer/Stand	○	○
Range Hood System	○	○

PRODUCT DESTINATION

MODEL NO.	U.S.A.	CANADA
	APH	CPH
NN-2505A	○	—
NN-2505C	—	○
NN-2555A	○	—
NN-2555C	—	○

MODEL NO.	U.S.A.	CANADA
	AQH	CQH
MQSV1056E	○	—
MQSV1056H	○	—
MQSV1056HC	—	○

FEATURE CHART

	NN-2505A, NN-2505C NN-2555A, NN-2555C	MQSV1056E MQSV1056H/HC
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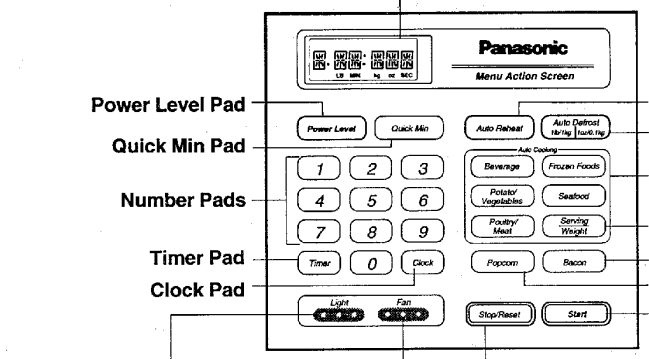
NN-2555C	—	○

MODEL NO.	U.S.A.	CANADA
	AQH	CQH
MQSV1056E	○	—
MQSV1056H	○	—
MQSV1056HC	—	○

CONTROL PANEL

NN-2505, NN-2555



Display Window / Menu Action Screen
During microwave operation, an indicator rotates at left side of the screen.

Power Level Pad

Quick Min Pad

Number Pads

Timer Pad

Clock Pad

Auto Reheat Pad

Auto Defrost Pads

Auto Cooking Pads

Serving/Weight Pad

Bacon Pad

Popcorn Pad

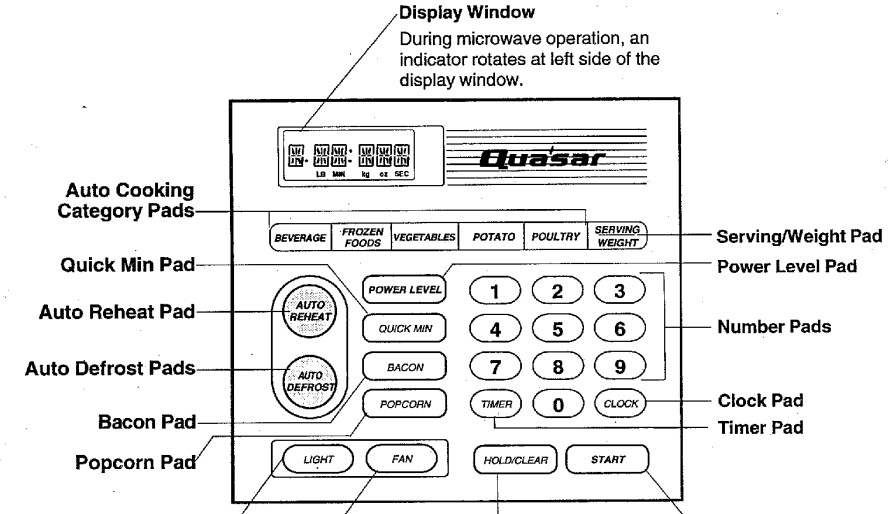
Cooktop Light Pad
Push and release for over-the-range Light.

Fan Pad
Press to turn on exhaust fan.
Press once for high and twice for low speed.
Press again to turn off.

Stop/Reset Pad

Start Pad

MQSV1056



Display Window
During microwave operation, an indicator rotates at left side of the display window.

Auto Cooking Category Pads

Serving/Weight Pad

Quick Min Pad

Power Level Pad

Auto Reheat Pad

Number Pads

Auto Defrost Pads

Clock Pad

Timer Pad

Bacon Pad

Popcorn Pad

Cooktop Light Pad
Push and release for over-the-range Light.

Fan Pad
Press to turn on exhaust fan.
Press once for high and twice for low speed.
Press again to turn off.

Hold/Clear Pad

Start Pad

OPERATION AND DIGITAL PROGRAMMER CIRCUIT TEST PROCEDURE

Conversion:
The oven automatically displays in English and weight in lb/oz. If you wish to use Spanish or French and kg/g, press Start pad until the desired pair appears in the display. The conversion should be programmed directly after plugging the oven in.

Press Start	Scroll Display
—	ENGLISH/oz
once	ENGLISH/kg
twice	FRANCAIS/kg
3 times	ESPANOL/kg
4 times	ESPANOL/oz

Operation Guide on the display:
To assist you in programming, the next operation will appear in the display. When you get used to operate the oven, you can turn off the operation guide.

To turn off:

Timer → OPERATION GUIDE OFF

Press 3 times

To turn on:

Timer → OPERATION GUIDE ON

Press 3 times

1. To Set Clock

OPERATION	SCROLL DISPLAY
1. Plug the power supply cord into wall outlet. (APH/CPH)	*WELCOME TO PANASONIC —REFER TO OPERATING INSTRUCTIONS BEFORE USE*
2. Plug the power supply cord into wall outlet. (AQH/CQH)	*QUASAR THANKS YOU*
3. Press Clock pad.	*—SET TIME*
4. Enter time of day (TOD) by pressing appropriate Time pads.	11:25 *—PRESS CLOCK PAD*
5. Press Clock pad. TOD has now been resistered into the digital programmer circuit and will count up by minutes.	11:25

2. Time Cooking for Two Stage

OPERATION	SCROLL DISPLAY
1. Place a water load in the oven.	
2. Press Power Level pad once to set High power. (1st stage)	*HIGH* *—SET TIME*
3. Set for 5 seconds by pressing Time pad.	5 SEC *—PRESS START* *HIGH*
4. Press Power Level pad 4 times to set Medium power. (2nd stage)	*MEDIUM* *—SET TIME*
5. Set for 1 minute by pressing Time pad.	1 00 MIN SEC *—PRESS START* *MEDIUM*
6. Press Start pad.	5 SEC
7. When 1st stage cooking time has elapsed, oven automatically switches to 2nd stage cooking.	1 00 MIN SEC
8. When 2nd stage cooking time has elapsed, oven beeps 5times and shuts off.	*ENJOY YOUR MEAL*

3. Auto Weight Defrost

OPERATION	SCROLL DISPLAY
1. Set the weight for 3 pounds by pressing 1l b/1 kg pad.	3 00 LB OZ —PRESS START
2. Press Start Pad.	32 06 MIN SEC
3. Press Stop/Reset Pad twice. Oven shuts off. Time of day or colon appears in the display.	11:25

4. Auto Reheat (APH/CPH)

OPERATION	SCROLL DISPLAY
1. Press Auto Reheat pad twice.	*2 SERV* *——PRESS START*
2. Press Start pad.	4 30 MIN SEC
3. When cooking time has elapsed. Oven beeps 5 times and shuts off.	*ENJOY YOUR MEAL*

5. Auto Reheat (AQH/CQH)

OPERATION	SCROLL DISPLAY
1. Press Auto Reheat pad once.	*PLATE OF FOOD* *——PRESS START*
2. Press Start pad.	3 00 MIN SEC
3. When cooking time has elapsed, oven beeps 5 times and shuts off.	*ENJOY YOUR MEAL*

6. To Set Child Safety Lock

OPERATION	SCROLL DISPLAY
1. Press Start pad 3 times continuously. "Lock" appears in the display.	LOCK

7. To Reset Child Lock

OPERATION	SCROLL DISPLAY
1. Press Stop/Reset pad 3 times continuously. Time of day or colon appears in the display.	11:25

8. Demonstration Mode

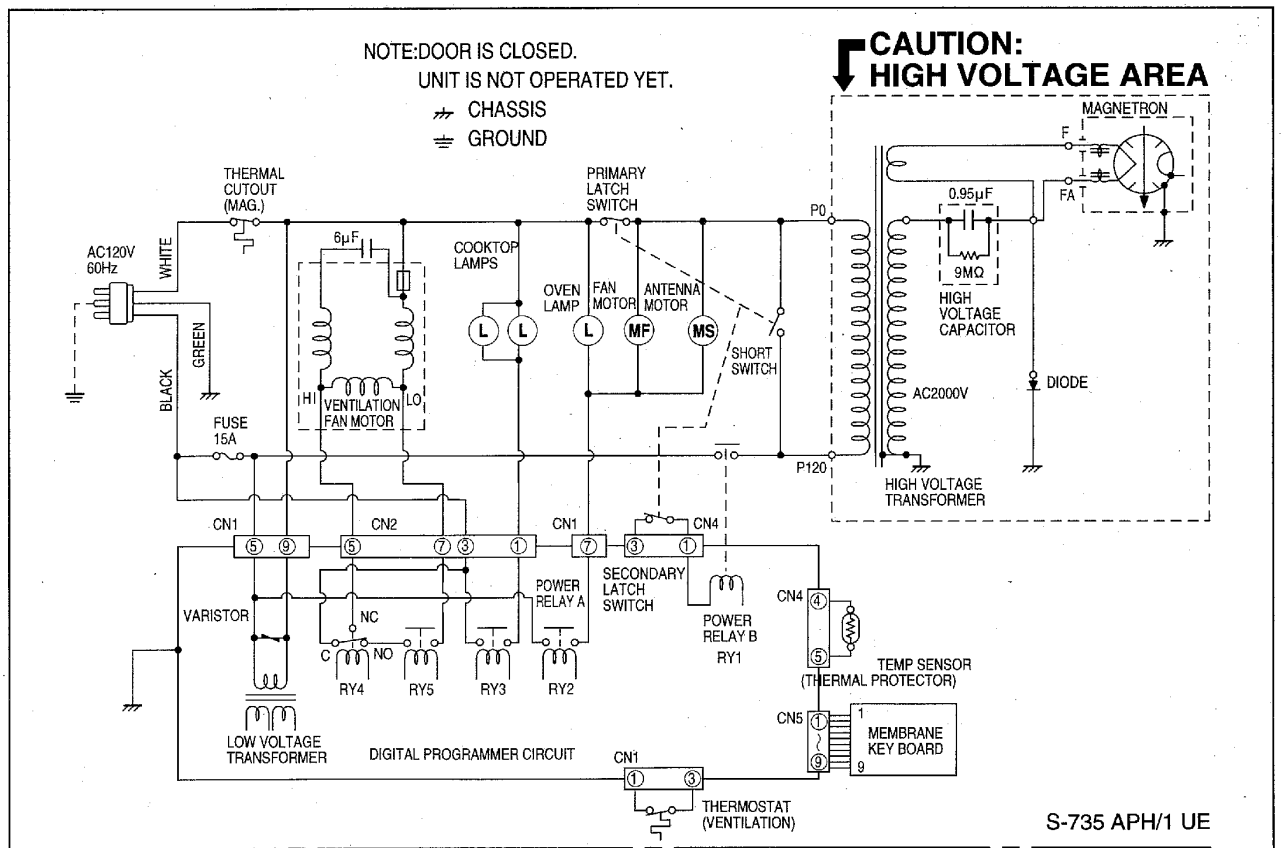
The demonstration mode designed for retail store display. It is not designed for home use. Cooking will not operate during demonstration mode.
To set demonstration mode

OPERATION	SCROLL DISPLAY
1. Press Clock pad 3 times continuously. Note: To cancel demonstration mode, press Clock pad 3 times continuously.	*DEMO MODE* *——PRESS ANY KEY*

9. Auto Cooking

OPERATION	SCROLL DISPLAY
1. Press Frozen Foods pad twice. (e.g) Set Dinners	*FROZEN DINNERS* *——PRESS SERV/WEIGHT*
2. Press Serving/Weight pad once. (e.g) Set 11 oz	11 OZ *——PRESS START*
3. Press Start pad.	8 00 MIN SEC

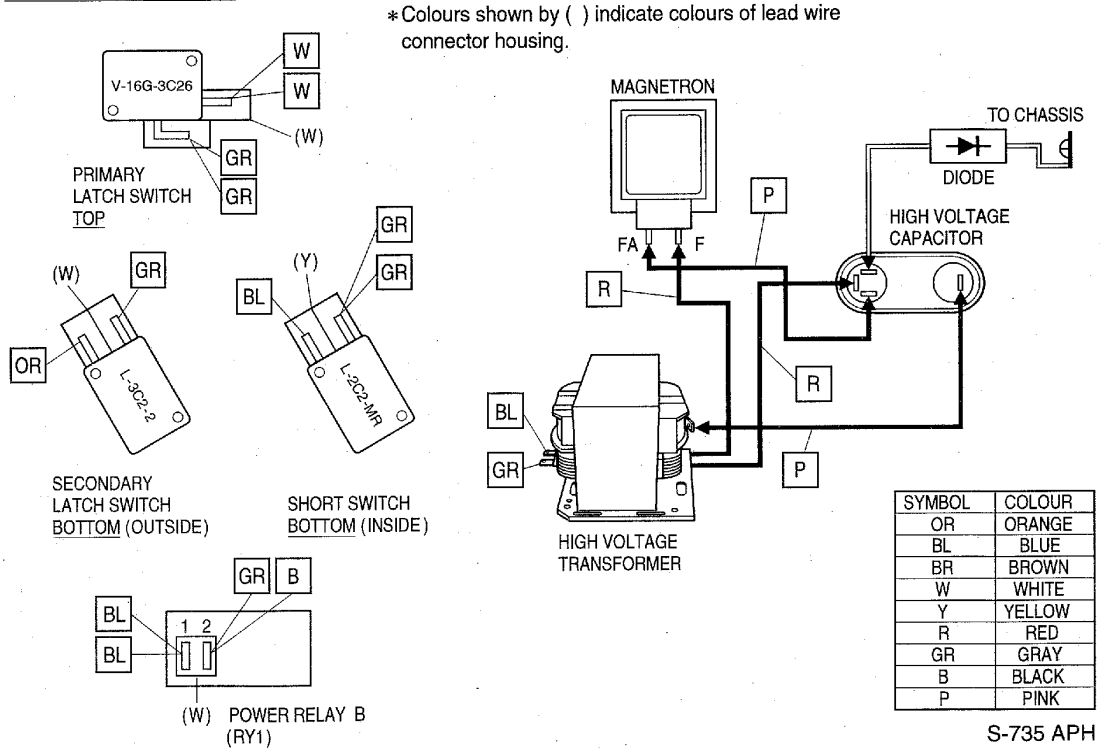
SCHEMATIC DIAGRAM (APH/AQH)



S-735 APH/1 UE

WIRING DIAGRAM

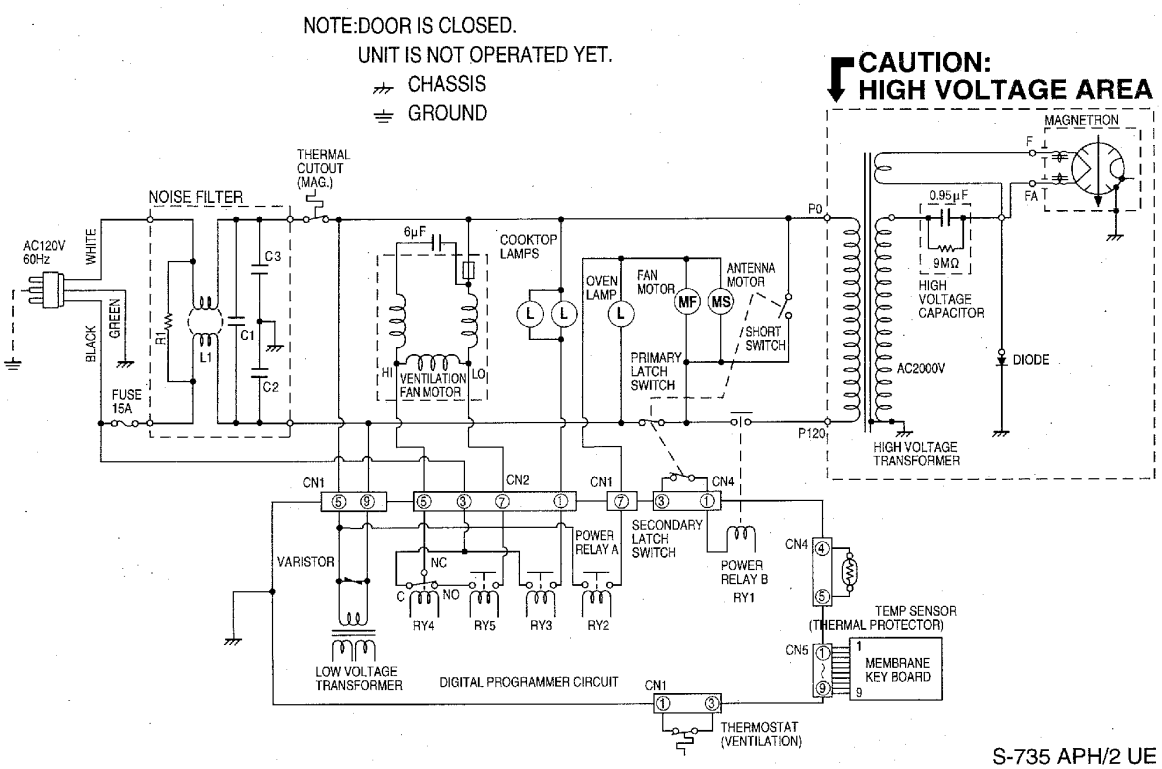
NOTE: ＊When replacing, check the lead wire colour as shown.
＊Colours shown by ( ) indicate colours of lead wire connector housing.



SYMBOL	COLOUR
OR	ORANGE
BL	BLUE
BR	BROWN
W	WHITE
Y	YELLOW
R	RED
GR	GRAY
B	BLACK
P	PINK

S-735 APH

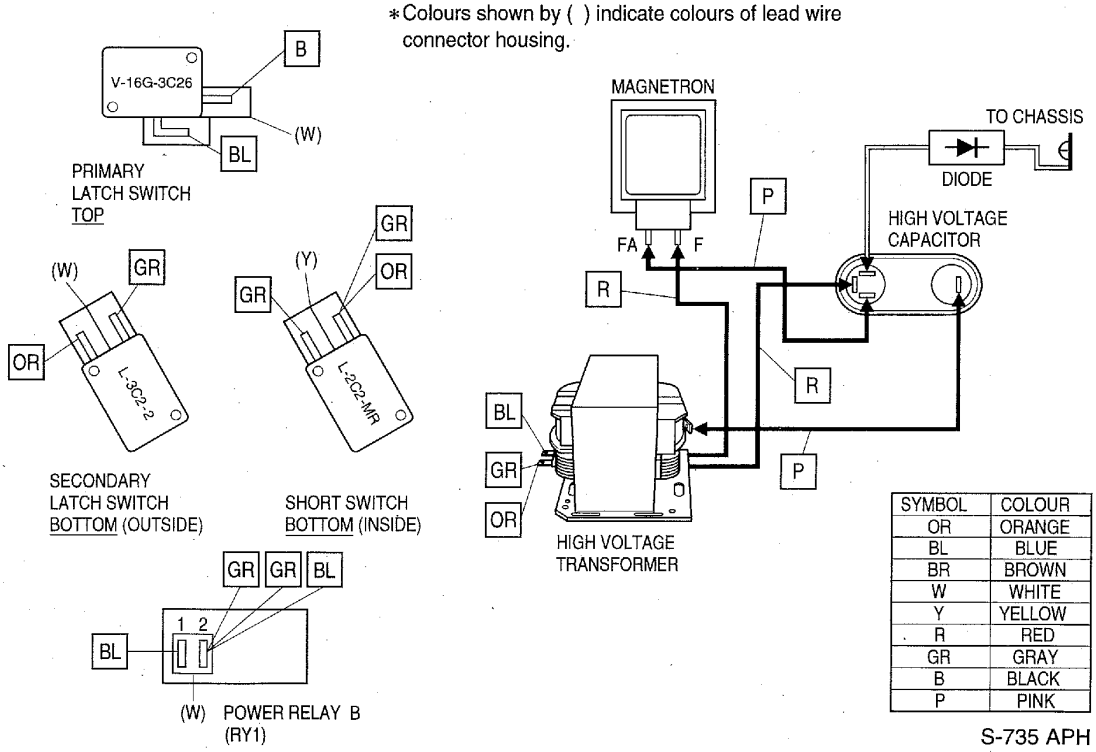
SCHEMATIC DIAGRAM (CPH/CQH)



S-735 APH/2 UE

WIRING DIAGRAM

NOTE: ∗When replacing, check the lead wire colour as shown.
∗Colours shown by ( ) indicate colours of lead wire connector housing.



SYMBOL	COLOUR
OR	ORANGE
BL	BLUE
BR	BROWN
W	WHITE
Y	YELLOW
R	RED
GR	GRAY
B	BLACK
P	PINK

S-735 APH

DESCRIPTION OF OPERATING SEQUENCE

1. Variable power cooking control

The coil of power relay B (RY1) is energized intermittently by the digital programmer circuit, when the oven is set at any power selection except for High power position. The digital programmer circuit controls the ON-OFF time of power relay B contacts in order to vary the output power of the microwave oven from "Low" to "High" power. One complete ON and OFF cycle of power relay B is 22 seconds. The relation between indications on the control panel and the output of the microwave oven is as shown in table.

NOTE: The ON/OFF time ratio does not correspond with the percentage of microwave power since approximately 2 seconds are required for heating of magnetron filament.

2. Auto defrost, Auto reheat, Auto Cooking, Popcorn control

When those Auto Control features are selected and the Start Pad is tapped:

(A) The digital programmer circuit determines the power level and cooking time to complete cooking and indicates the operating state in the display window.
Table shows the corresponding cooking times for respective serving by categories.

(B) When cooking time in the display window has elapsed, the oven turns off automatically by a controll signal from the digital programmer circuit.

Touch Control Models

POWER SETTING	OUTPUT POWER(%) APPROX.	ON-OFF TIME OF POWER RELAY B (RY1)	
		ON(SEC)	OFF(SEC)
HIGH	100%	22	0
MEDIUM-HIGH	70%	17	5
MEDIUM	55%	13	9
MEDIUM-LOW	30%	8	14
LOW	10%	5	17
DEFROST	30%	8	14

Auto Defrost

WEIGHT SELECTED	TOTAL DEFROSTING TIME
1 LB	9 min. 03 sec.
3 LB	32 min. 06 sec.

Auto Reheat (NN Models)

SERVING	COOKING TIME
2	4 min. 30 sec.

Auto Reheat (MQ Models)

CATEGORY	COOKING TIME
PLATE OF FOOD	3 min. 00 sec.

Auto Cooking

CATEGORY	SERV/WEIGHT	COOKING TIME
BEVERAGE COFFEE	2 MUGS	2 min. 45 sec.
FROZEN DINNERS	11 oz/300 g	8 min. 00 sec.
POTATO	2 PCS	8 min. 00 sec.
CHICKEN PIECES	18 oz/510 g	11 min. 00 sec.

Popcorn

QUANTITY	COOKING TIME
Popcorn 3.5 oz/99 g	3 min. 00 sec.

CAUTIONS TO BE OBSERVED WHEN TROUBLESHOOTING

Unlike many other appliances, the microwave oven is high-voltage, high-current equipment. Though it is free from danger in ordinary use, extreme care should be taken during repair.

CAUTION

Servicemen should remove their watches whenever working close to or replacing the magnetron.

1. Check the grounding

Do not operate on a 2-wire extension cord. The microwave oven is designed to be used when grounded. It is imperative, therefore, to make sure it is grounded properly before beginning repair work.

2. Warning about the electric charge in the high voltage capacitor (Figure)

For about 30 seconds after the oven is turned off, an electric charge remains in the high voltage capacitor.
When replacing or checking parts, remove the power plug from the outlet and short the terminal of the high voltage capacitor (terminal of lead wire from diode) to chassis ground with an insulated handle screwdriver to assure discharge.

WARNING

There is high-voltage present, with high-current capabilities in the circuits of the high voltage winding and filament winding of the high voltage transformer. It is extremely dangerous to work on or near these circuits with oven energized.
DO NOT measure the voltage in the high voltage circuit including filament voltage of magnetron.

WARNING

Never touch any circuit wiring with your hand nor with an insulated tool during operation.

3. When parts must be replaced, remove the power plug from the outlet.

4. When the 15 Amp fuse is blown due to the operation of short switch:

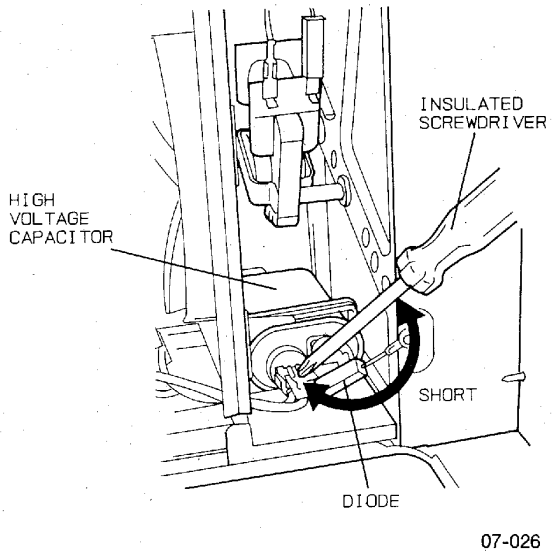
WARNING

When the 15 Amp. fuse is blown due to the operation of short switch, you must replace Primary latch switch and short switch. Also check continuity of the power relay B (RY-1) and the secondary latch switch, and replace if there is a shorted contacts.

(A) This is mandatory. Refer to "Adjustments and Measurement" for these switches.
(B) When replacing the fuse, confirm that it has the appropriate rating for these models.
(C) When replacing faulty switches, be sure mounting tabs are not bent, broken or otherwise deficient in their ability to hold the switches.

5. Avoid inserting nails, wire, etc. through any holes in the unit during operation.

Never insert a wire, nail or any other metal object through the lamp holes on the cavity or any other holes or gaps, because such objects may work as an antenna and cause microwave leakage.



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Touch chassis side first then short to the high voltage capacitor terminal.

6. Confirm after repair

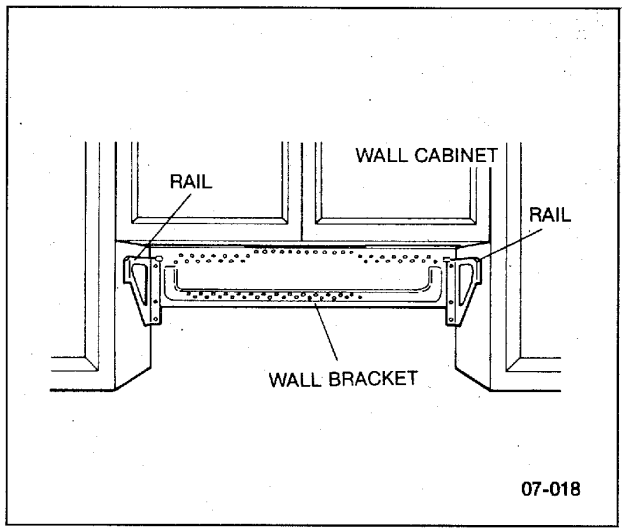
(A) After repair or replacement of parts, make sure that the screws of the oven, etc. are neither loose nor missing.
Microwaves might leak if screws are not properly tightened.
(B) Make sure that all electrical connections are tight before inserting the plug into the wall outlet.
(C) Check for microwave energy leakage. (Refer to procedure for measuring microwave energy leakage)

DISASSEMBLY AND PARTS REPLACEMENT PROCEDURE

1. Removal of the microwave oven from wall cabinet.

NOTE: The oven is suspended on two rails mounted on the wall bracket.

(A) Remove power plug from the AC outlet.
(B) Tuck the power cable into the oven housing through the circular hole on top cabinet bottom.
This will enable easier access when sliding the oven out.
(C) Disconnect exhaust adapter (if provided on top exhaust openning) from house duct pipe.
(D) Remove the exhaust adapter by removing 2 screws holding it to the oven cabinet.
(E) Remove 2 screws with flat washer holding the oven to top cabinet bottom.
(F) Hold the oven at each end and side out carefully. Product weighs approximately 59 lbs (27 kg) and care should be taken when removing the oven from cabinet.



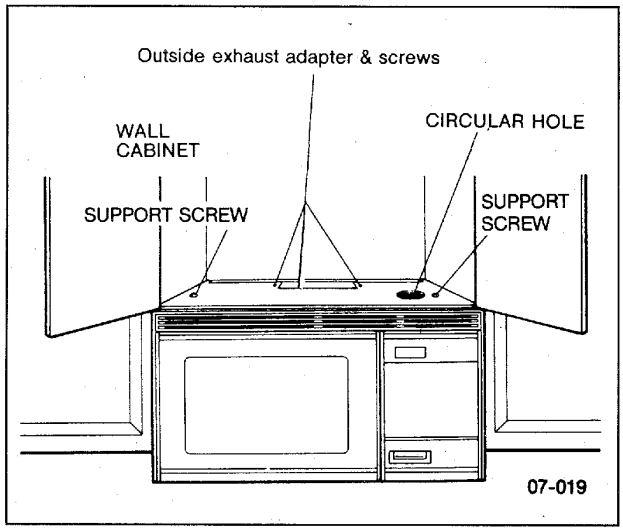
2. Magnetron

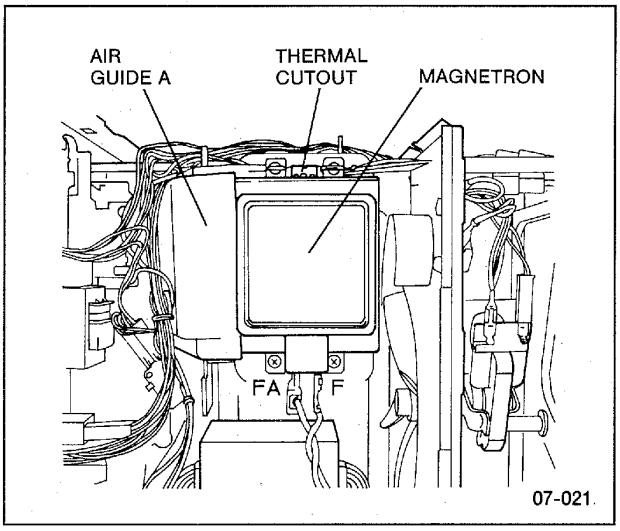
(A) Remove 6 screws holding air guides.
(B) Discharge the high voltage capacitor.
(C) Remove 2 screws holding thermal cut out.
(D) Remove air guide A by removing 1 screw.
(E) Remove 2 high voltage leads from filament terminals. (F, FA)
(F) Remove 4 screws holding the magnetron.

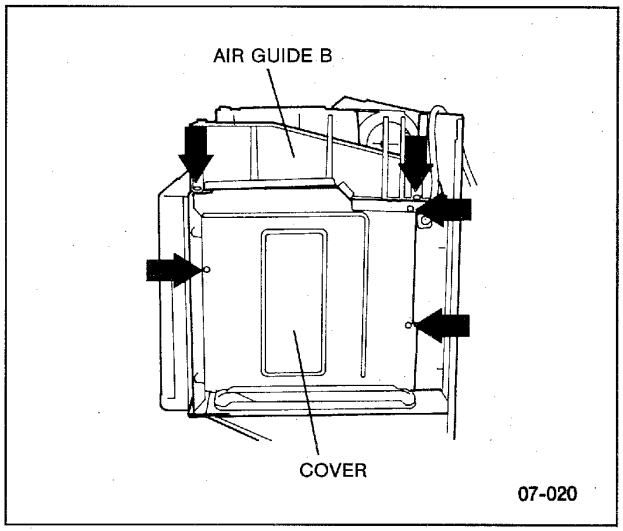
NOTE: To prevent microwave leakage, tighten mounting screws properly making sure there is no gap between the waveguide and the magnetron.

CAUTION
When replacing the magnetron, be sure the antenna gasket is in place.

CAUTION
When connecting 2 filament lead wires to the magnetron terminals, be sure to connect the lead wires in the correct position. The lead wire of high voltage transformer should be connected to "F terminal" and the lead wire from high voltage capacitor should be connected to "FA terminal". (See **Figure**)







3. Digital programmer circuit (D.P.C.) and membrane key board

NOTE: Be sure to ground any static electric charge built up on your body, before handling the D.P.C.

(A) Remove 2 screws holding front grille.
(B) Remove 2 screws holding escutcheon base and slide it upward.
(C) Disconnect all lead wires connectors from D.P.C..
(D) Release CN5 connector's lock of DPC by pushing both levers to inside and pull them upward, and remove flat cable.
(E) Remove D.P.C. by removing screws.

To replace membrane key boad

(F) Separate escutcheon base bracket from escutcheon base by freeing 4 catch hooks on the escutcheon base.
(G) Peel off the membrane key board from the escutcheon base bracket.

NOTE: The membrane kay board is attached to the escutcheon base bracket with double faced adhesive tape.

NOTE: When installing new membrane key board, make sure that the surface of the escutcheon base bracket is cleaned sufficiently so that any problems (shorted contacts or uneven surface) can be avoided.

NOTE: Make sure that new membrane key board is aligned to the left edge and projection tabs of the escutcheon base bracket.

4. Low voltage transformer and/or power relays

NOTE: Be sure to ground any static electric charge built up on your body before handling the D.P.C.

(A) Using solder wick or a desoldering tool and 30W soldering iron, carefully remove all solder from the terminal pins of the low voltage transformer or power relays.

NOTE: Do not use a soldering iron or desoldering tool of more than 30 watts on D.P.C. board.

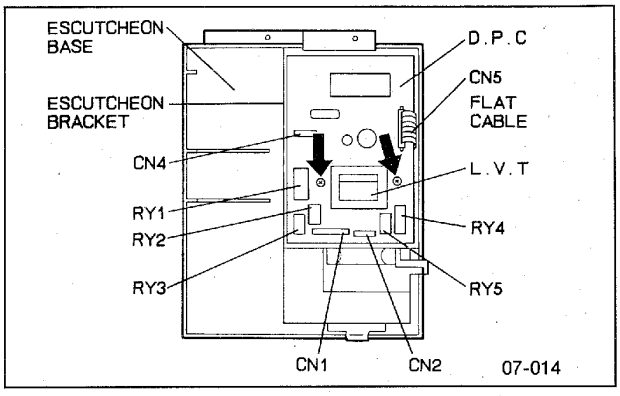
(B) With all the terminal pins cleaned and separated from D.P.C. contacts, remove the defective transformer/power relay and install new transformer/power relay making sure all terminal pins are inserted completely. Resolder all terminal contacts carefully.

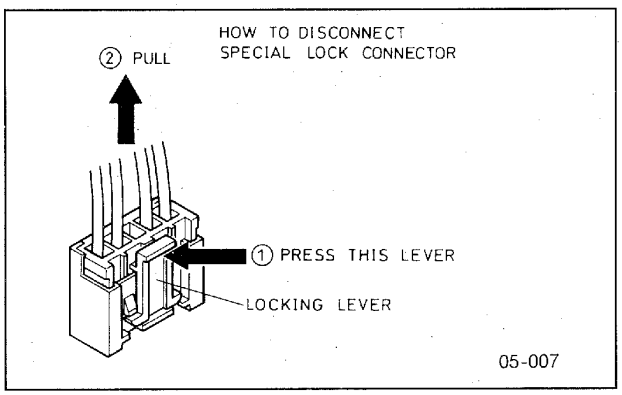
5. Door assembly

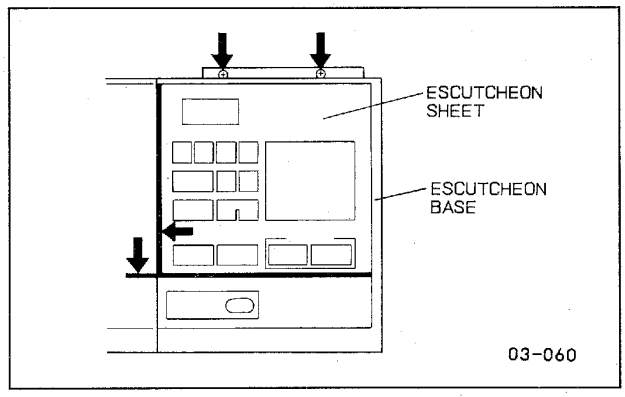
(A) Remove door C from door E by carefully pulling outward starting from upper right hand corner.
(B) Remove door key and door key spring from door E.
(C) Remove 4 screws holding side and bottom frames of the door A.
(D) Separate the door A from door E by carefully freeing catch hooks on the door A.

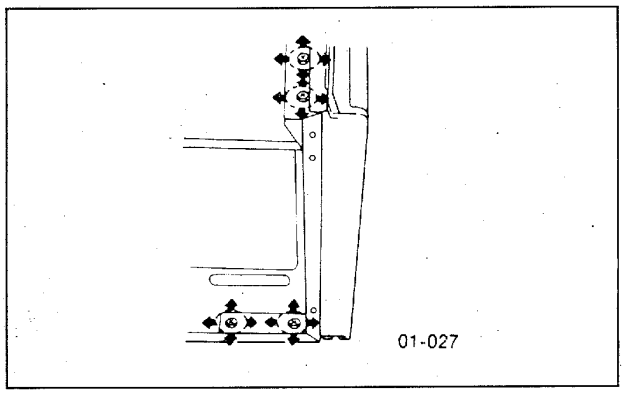
After replacement of the defective component parts of the door, reassemble it and follow the instructions below for proper installation and adjustment so as to prevent an excessive microwave leakage.

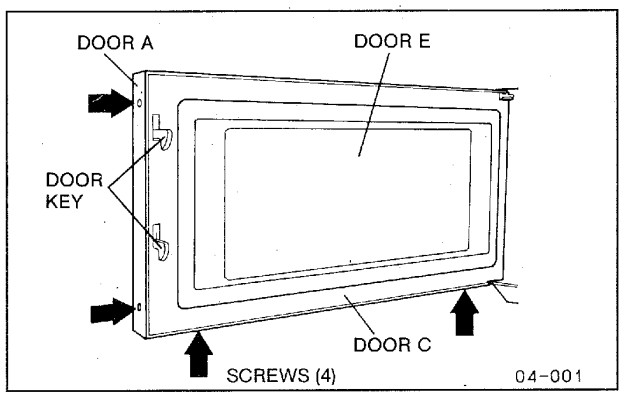
(1) When mounting the door to the oven, be sure to adjust the door parallel to the bottom line of the oven face plate by moving the upper hinge and lower hinge in the direction necessary for proper alignment.
(2) Adjust so that the door has no play between the inner door surface and oven front surface. If the door assembly is not mounted properly, microwave power may leak from the clearance between the door and oven.
(3) Perform the microwave leakage test.











6. Floor shelf and/or moving antenna.

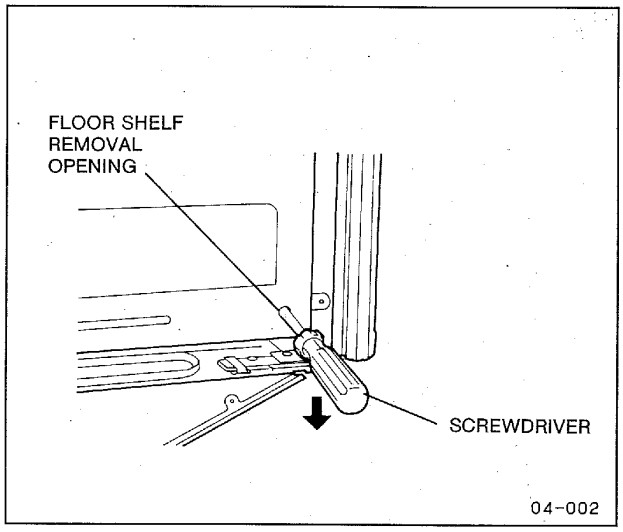
(A) Insert a phillips type screwdriver or equivalent approx. 3" (7.5cm) in shaft length in the hole of left side oven wall as shown in **Figure**.
(B) Carefully lift up the floor shelf by using the screwdriver until the floor shelf is lifted up over the level of oven opening front.
(C) Remove the floor shelf by lifting it up from oven front.

To replace moving antenna.

(D) Remove the moving antenna by simply lifting it up off the antenna motor shaft.

NOTE: **When replacing the moving antenna, make sure the plastic stirrer spacers are correctly in place.**

(E) When installing the new floor shelf in position, make sure that front edge side of the floor shelf is inserted in position first then press down the rear side.



7. Antenna motor

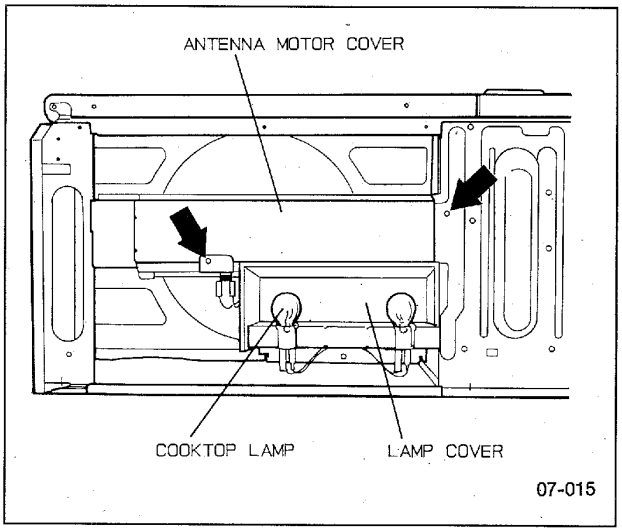
(A) Remove 6 screws holding bottom cover.
(B) Remove 2 screws holding antenna motor cover.
(C) Disconnect 2 lead wires from antenna motor.
(D) Remove the antenna motor by removing 2 screws.

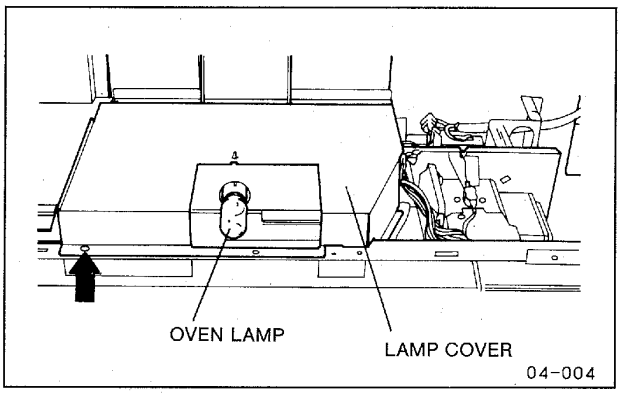
8. Oven lamp

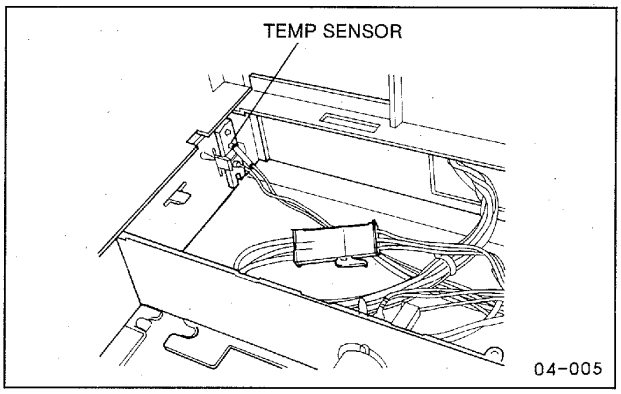
(A) Remove 2 screws holding front grille.
(B) Remove 1 screw holding lamp cover.
(C) Replace oven lamp with new one.

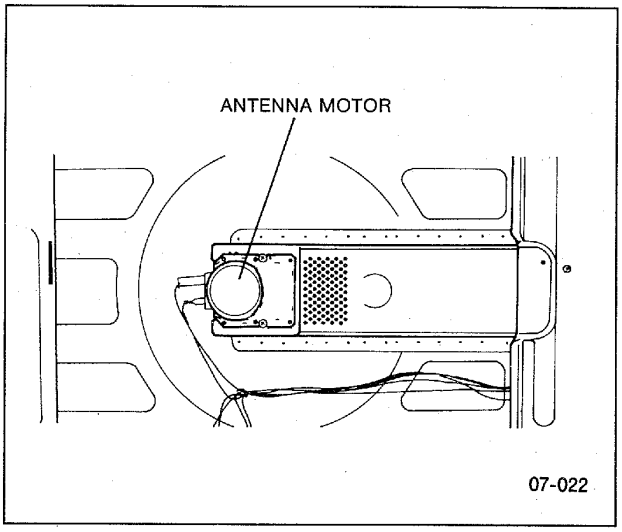
9. Temp sensor

(A) Remove 2 screws holding front grille.
(B) Remove 4 screws holding air guide B.
(C) Remove 2 screws holding oven lamp covers.
(D) Remove temp sensor by freeing catch hooks.
(E) Cut 2 lead wires at the top of sensor terminals.
(F) Replace temp sensor with new one.
(G) Solder the lead wires securely to the sensor terminals.









COMPONENT TEST PROCEDURE

CAUTION

1. High voltage is present at the high voltage terminal of the high voltage transformer during any cook cycle.
2. It is neither necessary nor advisable to attempt measurement of the high voltage.
3. Before touching any oven components, or wiring, always unplug the oven from its power source and discharge the high voltage capacitor.

1. Primary Latch Switch, Secondary (Secondary Latch Switch and Power relay B) Interlocks.

(A) Unplug lead connectors to Power Relay B and verify continuity of the power relay B 1-2 terminals.
(B) Unplug lead connectors to Primary Latch Switch and Secondary Latch Switch.
(C) Test the continuity of switches at door opened and closed positions with ohm meter (low scale).
Normal continuity readings should be as follows.

	Door Opened	Door Closed
Primary Latch Switch	∞ Ω (open)	0 Ω (close)
Secondary Latch Switch	∞ Ω (open)	0 Ω (close)
Power Relay B	∞ Ω (open)	∞ Ω (open)

2. Short Switch & Monitor Circuit

(A) Unplug lead wires from H.V. transformer primary terminals.
(B) Connect test probes of ohm meter to the disconnected leads which were connected to H.V. Transformer.
(C) Test the continuity of short switch with door opened and closed positions using lowest scale of the ohm meter.
Normal continuity readings should be as follows.

Models	Door closed	Door opened
Touch Models	∞ Ω	0 Ω
Mechanical Models	Some Ohm See Note	0 Ω

NOTE: In this case, the ohm meter indicates some resistance of the part(s) such as oven lamp, blower fan motor, etc. connected in parallel with the monitor circuit.

3. High voltage transformer

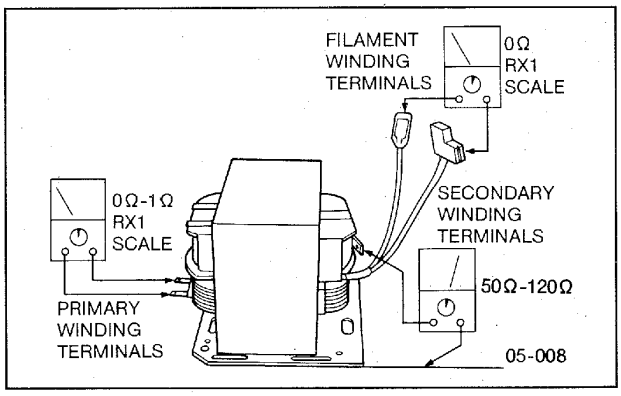
(A) Remove connections from the transformer terminals and check continuity.
(B) Normal (cold) resistance readings should be as follows:
Secondary winding ····· Approx. 50Ω~120Ω
Filament winding ····· Approx. 0Ω
Primary winding ····· Approx. 0Ω~ 1Ω

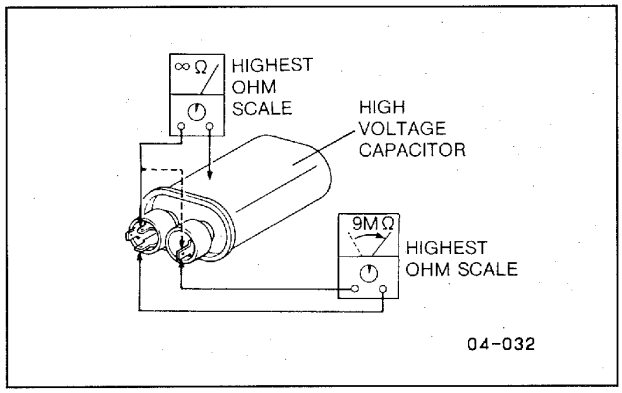
4. High voltage capacitor

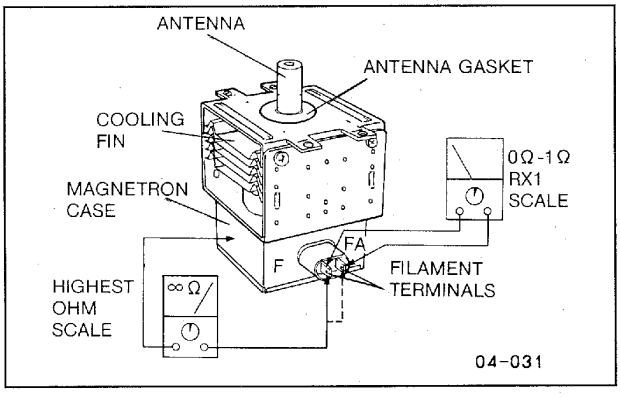
(A) Check continuity of capacitor with meter on highest OHM scale.
(B) A normal capacitor will show continuity for a short time, and then indicate 9MΩ once the capacitor is charged.
(C) A shorted capacitor will show continuous continuity.
(D) An open capacitor will show constant 9MΩ.
(E) Resistance between each terminal and chassis should be infinite.

5. Magnetron

Continuity checks can only indicate an open filament or a shorted magnetron. To diagnose for an open filament or shorted magnetron.
(A) Isolate magnetron from the circuit by disconnecting the leads.
(B) A continuity check across magnetron filament terminals should indicate one ohm or less.
(C) A continuity check between each filament terminal and magnetron case should read open.

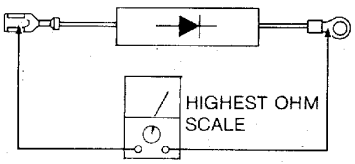






6. Diode

(A) Isolate the diode from the circuit by disconnecting the leads.
(B) With the ohmmeter set on the highest resistance scale, measure the resistance across the diode terminals. Reverse the meter leads and again observe the resistance reading. Meter with 6V, 9V or higher voltage batteries should be used to check the forward and reverse diode polarity, otherwise an infinite resistance may be read in both directions.
A normal diode's resistance will be infinite in one direction and several hundred kΩ in the other direction.



NOTE: OHMMETER SHOULD HAVE A MINIMUM 6 VOLT BATTERY.

FORWARD	REVERSE
SEVERAL HANDRED KΩ	∞Ω

04-033

7. Membrane key board (Membrane switch assembly)

Check continuity between switch terminals, by tapping an appropriate pad on the key board. The contacts assignment of the respective pads on the key board is as shown in digital programmer circuit.

8. Temp sensor (Thermal protector)

A temp sensor is mounted on lamp bracket at the left side. Its purpose is to automatically shut off the oven in case the cavity overheats for any reason.
The thermal protector will operate at 257°F (125°C).
The device is connected to the DPC on touch control models. When the thermal protector exceeds its temperature it will turn off the power to oven cavity and display will go to reset mode.
The cooking program can be reset after cool-down.

THERMISTOR RESISTANCE VALUE
30K-120K at 10°C-30°C (50°F-86°F)

MEASUREMENTS AND ADJUSTMENTS

WARNING

* For continued protection against radiation hazard, replace only with identical replacement parts (For touch models Part No. ANE61424L0AG, Type No. V-16G-3C26 for Primary latch switch Part No. A61425180AP, Type No. L-3C2-2 for Secondary latch switch and Part No. ANE6178-5R0, Type No. L-2C2-MR for short switch.)
* When the 15 Amp. fuse is blown due to the operation of short switch, you must replace Primary latch switch and short switch. Also replace power relay B (Part No. AEG5J1EM18B, Type No. G5J-1-TP) when the continuity check reads shorted contacts (1—2). Then follow the adjustment procedures below.
* Interlock switch replacement — In replacing faulty switches, be sure mounting tabs are not bent, broken or otherwise deficient in their ability to hold the switches.
* Refer to schematic diagram to ensure proper connection.

1. Adjustment of Primary latch switch, Secondary latch switch and short switch

(A) When mounting Primary latch switch, Secondary latch switch and short switch to door hook assembly, mount the Primary latch switch, the Secondary latch switch and the short switch to the door hook assembly as shown in table.

NOTE: **No specific adjustment during installation of Primary latch switch, Secondary latch switch and short switch to the door hook is necessary.**

(B) When mounting the door hook assembly to the oven assembly, adjust the door hook assembly by moving it in the direction of arrow in table so that the oven door will not have any play in it. Check for play in the door by pulling the door assembly. Make sure that the latch keys move smoothly after adjustment is completed. Completely tighten the screws holding the door hook assembly to the oven assembly.

(C) Reconnect the short switch and check the continuity of the monitor circuit and all latch switches again by following the components test procedures.

2. Measurement of microwave output

The output power of the magnetron can be determined by performing IEC standard test procedures. However, due to the complexity of IEC test procedures, it is recommended to test the magnetron using the simple method outlined below.

Necessary Equipment:

*1 liter beaker *Glass thermometer

*Wrist watch or stopwatch

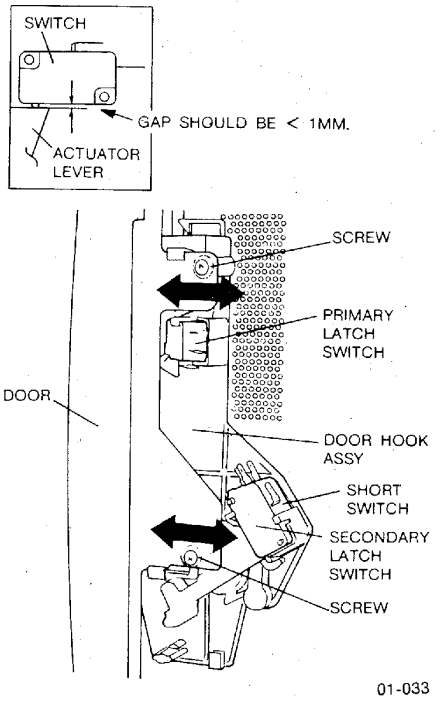
NOTE: **Check the line voltage under load. Low voltage will lower the magnetron output. Take the temperature readings and heating time as accurate as possible.**

(A) Fill the beaker with exactly one liter of tap water. Stir the water using the thermometer and record the beaker's temperature (recorded as T1).

(B) Place the beaker on the center of glass cook plate.
Set the oven for High power and heat it for exactly one minute.

(C) Stir the water again and read the temperature of the beaker (recorded as T2).

(D) The normal temperature rise at High power position for each models is as shown in table.



Please confirm that the gap between the switch housing and switch actuator levers is no more than 1.0mm when the door is closed.

TABLE (1 ℓ -1min. test)

RATED OUTPUT	TEMPERATURE RISE
825~800W (IEC705-88)	Min. 12.6°F (7.0°C)

PROCEDURE FOR MEASURING MICROWAVE ENERGY LEAKAGE

WARNING

Check for radiation leakage after every servicing. Should the leakage be more than 2 mW/cm² (1mW/cm² for Canada) inform the MSC, PSC or MELCA immediately. After repairing or replacing any radiation safety device, keep a written record for future reference, as required by D.H.H.S and Health and Welfare Canada regulation. This requirement must be strictly observed. In addition, the leakage reading must be recorded on the service repair ticket while in the customer's home.

NOTE: The U.S. government standard is 5 mW/cm² while in the customer's home. 2mW/cm² stated here is our own voluntary standard. (1mW/cm² for Canada)

1. Equipment

*Electromagnetic radiation monitor
*Glass thermometer 212°F or 100°C
*600ml glass beaker

2. Procedure for measuring radiation leakage.

Note before measuring

(1) Do not exceed meter full scale deflection. Leakage monitor should initially be set to the highest scale.
(2) To prevent false readings the test probe should be held by the grip portion of the handle only and moved along the shaded area shown in Figure no faster than 1 inch/sec (2.5 cm/sec)
(3) Leakage with the outer panel removed·····less than 5mW/cm²
(4) Leakage for a fully assembled oven with door normally closed····· less than 2mW/cm² (1mW/cm² for Canada)
(5) Leakage for a fully assembled oven [Before the latch switch (primary) is interrupted] while pulling the door ·····less than 2mW/cm²

(A) Pour 275 ± 15ml (9ozs ± 1/2oz) of 20 ± 5°C (68 ± 9°F) water in a beaker which is graduated to 600cc, and place the beaker in the center of the oven.
(B) Set the radiation monitor to 2450MHz and use it following the manufacturer's recommended test procedure to assure correct results.
(C) When measuring the leakage, always use the 2 inch (5cm) spacer supplied with the probe.
(D) Press the start pad or turn on the timer and with the magnetron oscillating, measure the leakage by holding the probe perpendicular to the surface being measured.

(1) Measurement with the outer panel removed.

Whenever you replace the magnetron, measure for radiation leakage before the outer panel is installed and after all necessary components are replaced or adjusted. Special care should be taken in measuring around the magnetron. (**Figure**)

WARNING

Avoid contacting any high voltage parts.

(2) Measurements with a fully assembled oven. (Figure)

After all components, including the outer panel are fully assembled, measure for radiation leakage around the door periphery, the door viewing window, the exhaust opening and air inlet openings.

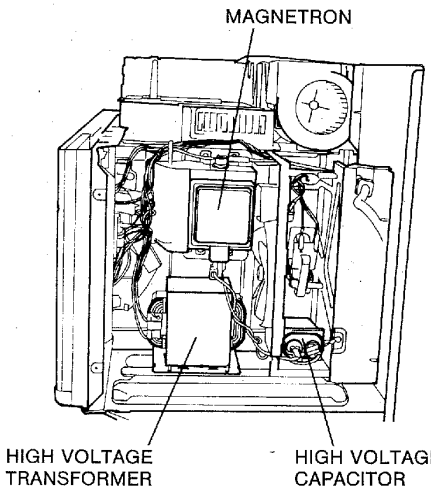
3. Record keeping and notification after measurement

(A) After any adjustment or repair to a microwave oven, a leakage reading must be taken. Record this leakage reading on the repair ticket even if it is zero.
A copy of this repair ticket and the microwave leakage reading should be kept by repair facility.
(B) Should the radiation leakage be more than 2 mW/cm² (1mW/cm² for Canada) after determining that all parts are in good condition, functioning properly, and genuine replacement parts as listed in this manual have been used, immediately notify the MSC, PSC or MELCA.

4. At least once a year, have the radiation monitor checked for calibration by its manufacturer.

WARNING

AVOID CONTACTING ANY HIGH VOLTAGE PARTS.



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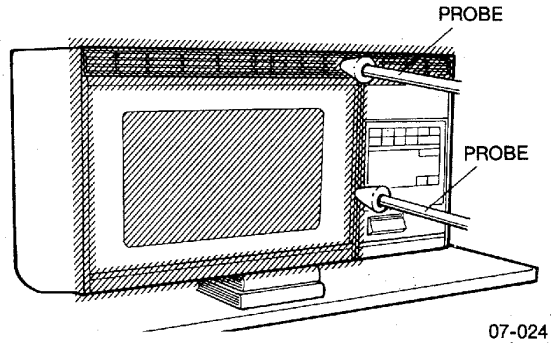

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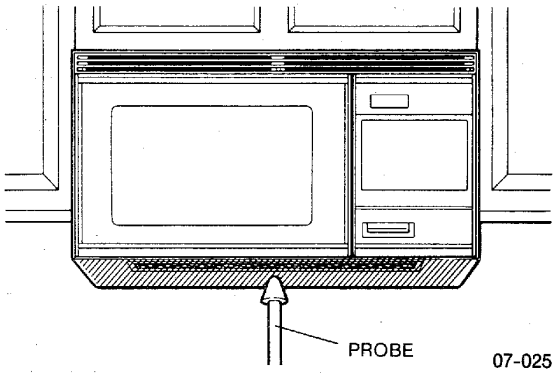

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TROUBLESHOOTING GUIDE

CAUTION

1. Check grounding before checking for trouble.
2. Be careful of the high voltage circuit.
3. Discharge high voltage capacitor.
4. When checking the continuity of the switches or the high voltage transformer, disconnect one lead wire from these parts and then check continuity with the AC plug removed. To do otherwise may result in a false reading or damage to your meter.
   When disconnecting a plastic connector from a terminal, you must hold the plastic connector instead of the lead wire and then disconnect it, otherwise lead wire may be open or the connector cannot be removed.
5. Do not touch any parts of the circuitry on the digital programmer circuit, since static electric discharge may damage this control panel.
   Always touch yourself to ground while working on this panel to discharge any static charge in your body.
6. A 120V AC is present at the shaded area ▒▒ of the digital programmer circuit (Terminals of power relay B and primary circuit of low voltage transformer). When troubleshooting, be cautious of possible electrical shock hazard.

First of all operate the microwave oven following the correct operating procedures in order to find the exact cause of any trouble.

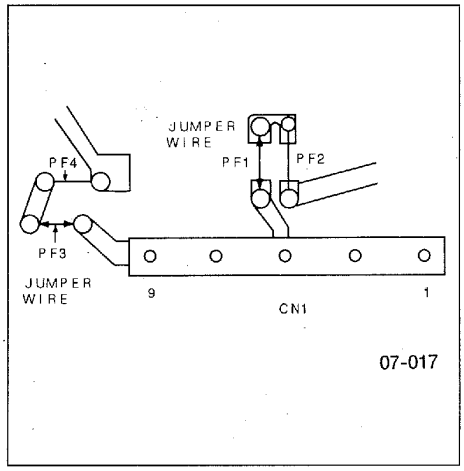
	SYMPTOM	CAUSE	CORRECTIONS
1.	Oven is dead. Fuse is OK. No display and no operation at all.	1. Open or loose lead wire harness 2. Open thermal cutout (Magnetron) 3. Open low voltage transformer 4. Defective DPC	Check fan motor when thermal cutout is defective. Refer to DPC troubleshooting.
2.	No display and no operation but ventilation fan motor rotates at high speed. Fuse is blown.	1. Shorted lead wire harness 2. Defective primary latch switch (NOTE 1) 3. Defective short switch (NOTE 1) 4. Shorted H.V. Capacitor 5. Shorted H.V. Transformer (NOTE 2)	Check adjustment of primary, secondary latch switch and short switch including door.
		NOTE 1: All of these switches must be replaced at the same time. (Refer to adjustment instructions.) Check continuity of power relay B's (RY1) contacts (between 1 and 2) and if it has continuity, replace power relay B also. NOTE 2: When H.V. Transformer is replaced, check diode and magnetron also.	
3.	Oven does not accept key input (Program)	1. Key input is not in-sequence 2. Open or loose connection of membrane key pad to DPC (Flat cable) 3. Shorted or open membrane key board 4. Defective DPC	Refer to operation procedure. Refer to DPC troubleshooting.
4.	Oven lamp and fan motor turn on when oven is plugged in with door closed.	1. Misadjustment or loose wiring of secondary latch switch. 2. Defective secondary latch switch	Adjust door and latch switches.
5.	Timer starts countdown but no microwave oscillation. (No heat while oven lamp and fan motor turn on)	1. Off-alignment of latch switches 2. Open or loose connection of high voltage circuit especially magnetron filament circuit NOTE: Large contact resistance will bring lower magnetron filament voltage and causing magnetron to lower output and/or intermittent oscillation. 3. Defective high voltage component H.V. Transformer H.V. Capacitor H.V. Diode Magnetron 4. Open or loose wiring of power relay B (RY1) 5. Defective primary latch switch 6. Defective power relay B or DPC	Adjust door and latch switches. Check high voltage component according to component test procedure and replace if it is defective. Refer to DPC troubleshooting

	SYMPTOM	CAUSE	CORRECTIONS
6.	Oven can program but timer does not start countdown.	1. Open or loose wiring of secondary latch switch 2. Off-alignment of secondary latch switch 3. Defective secondary latch switch	Adjust door and latch switches.
7.	Microwave output is low. Oven takes longer time to cook food.	1. Decrease in power source voltage 2. Open or loose wiring of magnetron filament circuit. (Intermittent oscillation) 3. Aging change of magnetron	Consult electrician
8.	Fan motor and oven lamp turn on when door is opened.	1. Shorted primary latch switch	
9.	Oven does not operate and return to plugged in mode.	1. Open or loose wiring of temp sensor 2. Defective temp sensor 3. Defective DPC	
10.	Loud buzzing noise can be heard.	1. Loose fan and fan motor 2. Loose screws on H.V. Transformer 3. Shorted H.V. Diode	
11.	Antenna motor does not rotate.	1. Open or loose wiring of antenna motor 2. Defective antenna motor	
12.	Oven stops operation during cooking	1. Open or loose wiring of primary and secondary latch switch 2. Operation of thermal cutout (Magnetron)	Adjust door and latch switches.
13.	Cooktop lamps do not turn on.	1. Open or loose wiring of cooktop lamp 2. Defective cooktop lamp(s) 3. Defective membrane key board 4. Defective DPC	
14.	Ventilation fan motor does not turn on.	1. Open or loose wiring of ventilation fan motor 2. Defective ventilation fan motor 3. Defective membrane key board 4. Defective DPC	

Trouble related to Digital Programmer Circuit

SYMPTOM	STEP	CHECK	RESULT	CAUSE/CORRECTIONS
No display when oven is first plugged in	1	Fuse pattern of DPC	Normal	STEP 2
			Open (NOTE)	Shorted circuit of ZNR, L. V. T., Oven Lamp etc.
	2	Low voltage transformer (LVT) secondary voltage	Abnormal 0V	LVT
			Normal	→ Step 3
	3	IC-1 pin 1 and 2 voltage	Abnormal	ZD1,Q1
			Normal 1 : 5V 2 : −20V	→ Step 4
	4	IC-1 pin 12 voltage (14 pin of IC-2)	Abnormal	IC-2
			Normal (5V)	→ IC-1, CX1, DISPLAY

NOTE



Procedure of fuse pattern repairing is as follows:

1. When the fuse pattern (PF2) opens.

(1) Remove jumper wire (PF1).
(2) Insert the removed jumper wire (PF1) to "(PF2)" position and solder it. If both "PF1" and "PF2" fuse pattern are open, please replace DPC.

2. When the fuse pattern (PF4) opens.

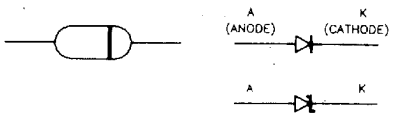
(1) Remove jumper wire (PF3).
(2) Insert the removed jumper wire (PF3) to "(PF4)" position and solder it. If both "PF4" and "PF3" fuse pattern are open, please replace DPC.

NOTE:* At the time of these repairs, make visual inspection of the varistor for burning damage and examine the transformer with tester for the presence of layer short-circuit (check primary coil resistance).
If any abnormal condition is detected, replace the defective parts.

No key input	1	Membrane switch continuity	Abnormal	Membrane switch
			Normal	IC-1
No beep sound	1	IC-1 pin 23 voltage	Abnormal	IC-1
			Normal	BZ1
Power relay 2(RY-2) does not turn on even though the program has been set and the start pad is tapped	1	IC-1 pin 8 voltage while operation	Abnormal	IC-1
			Normal (5V)	→ Step 2
	2	Short circuit between pin 1 and pin 12 of IC-2	Still not turn on	RY-2
			RY-2 turns on	IC-2
No microwave oscillation at any power setting	1	IC-1 pin 5 and pin 15 voltages while operation at high power	Abnormal	IC-1
			Normal 5--- (5V), 15--- (5V)	→ Step 2
	2	Q6 transistor	Abnormal	Q6
			Normal	IC-2, RY-1
Dark or unclear display	1	Replace display and check operation	Normal	DISPLAY
			Abnormal	IC-1
Missing or lighting of unnecessary segment	1	Replace IC-1 and check operation	Normal	IC-1
			Abnormal	DISPLAY

HOW TO CHECK THE SEMICONDUCTORS USING AN OHM METER

Diode



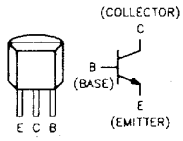
	FORWARD	REVERSE
A-K	SMALL	∞

Transistor

NPN Transistor

2SC·····

2SD·····

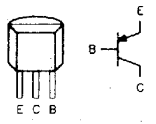


	FORWARD	REVERSE
B-E	SMALL	∞
B-C	SMALL	∞
C-E	∞	∞

PNP Transistor

2SA·····

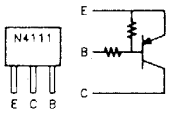
2SB·····



	FORWARD	REVERSE
E-B	SMALL	∞
C-B	SMALL	∞
C-E	∞	∞

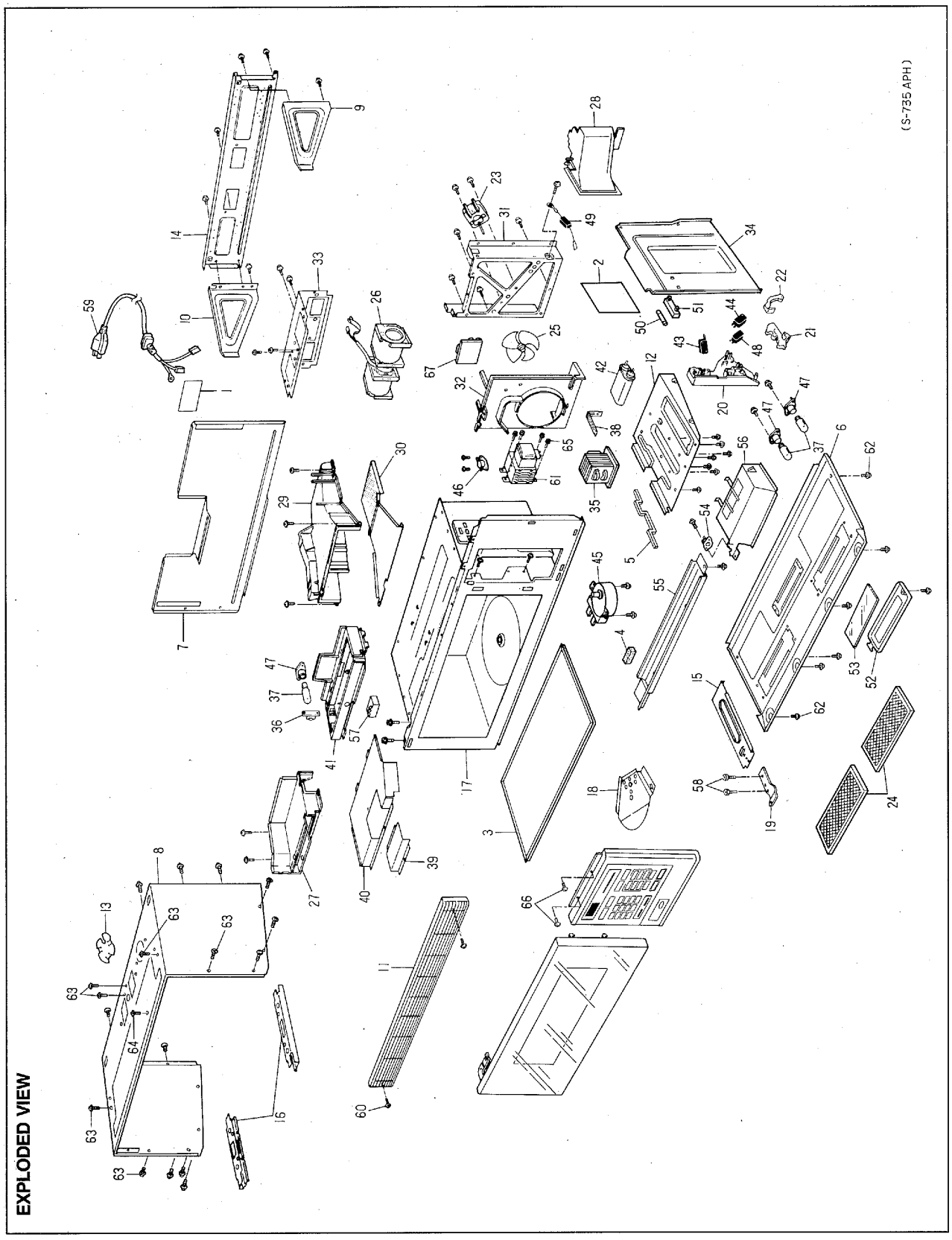
Digital Transistor

PNP Transistor



	FORWARD	REVERSE
E-B	10kΩ~30kΩ	10kΩ~30kΩ
C-B	50kΩ~90kΩ	∞
C-E	40kΩ~80kΩ	∞

EXPLODED VIEW AND PARTS LIST



PARTS LIST

NOTE : When ordering replacement part(s), please use part number(s) shown in this parts list.
Do not use description of the part.
Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.
Items marked * supplied by MMCA. (U.S.A.)

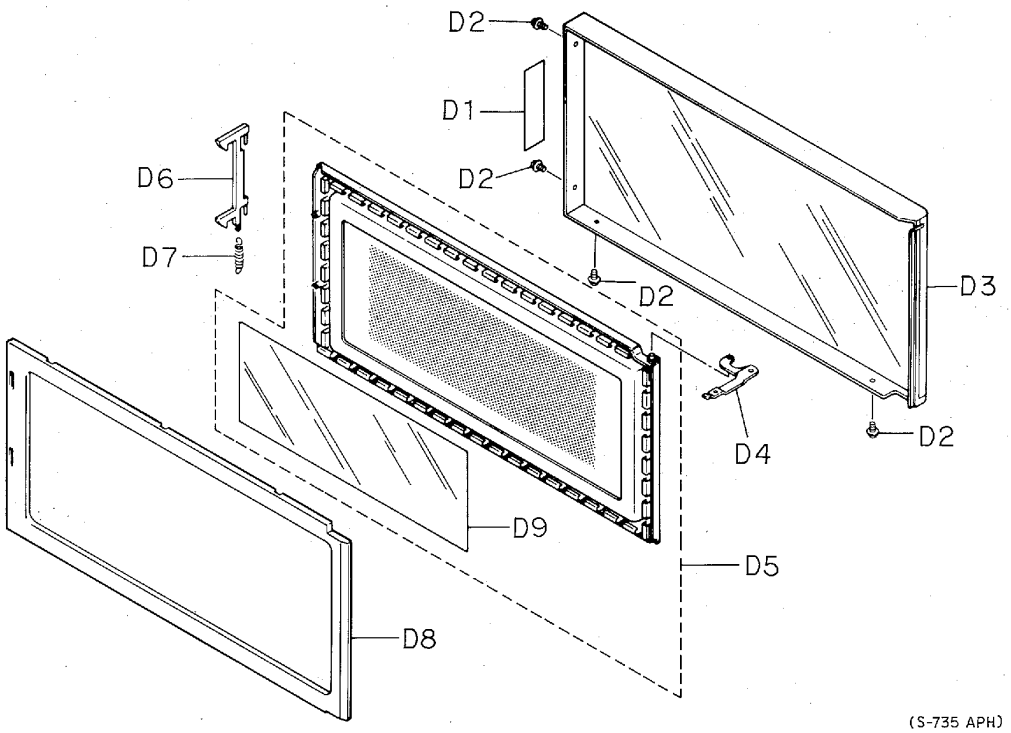
Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
* 1		B00067350AP	CAUTION LABEL	1	MQSV1056E,MQSV1056H,NN-2505A,NN-2555A
* 1		B00067600CP	CAUTION LABEL	1	NN-2505C,NN-2555C,MQSV1056HC
* 2		B00336260AP	FUSE LABEL	1	MQSV1056E,MQSV1056H,NN-2505A,NN-2555A
* 2		B00334900CP	FUSE LABEL	1	NN-2505C,NN-2555C,MQSV1056HC
3		A010T5000AP	SHELF	1	
* 4		AMQ0902000BC	CUSHION RUBBER C	1	
* 5		AMQ0923000AT	CUSHION RUBBER C	1	
* 6		B10017350AP	BASE	1	
* 7		B10045000AP	BACK PANEL	1	
* 8		B10097350AP	CABINET BODY	1	MQSV1056E,NN-2505A,NN-2505C
* 8		B10097350HAP	CABINET BODY	1	MQSV1056H,NN-2555A,NN-2555C,MQSV1056HC
* 9		B1101R20AP	BRACKET RIGHT	1	
* 10		B1102R20AP	BRACKET LEFT	1	
* 11		B11197350AP	GRILLE	1	MQSV1056E,NN-2505A,NN-2505C
* 11		B11197350HAP	GRILLE	1	MQSV1056H,NN-2555A,NN-2555C,MQSV1056HC
* 12		B11297350AP	BASE B	1	
* 13		B11706030AP	COVER	1	
* 14		B11835000AP	BACK PANEL B	1	
* 15		B12177350AP	BASE C	1	
* 16		B18076030AP	SIDE RAIL (LEFT&RIGHT)	2	
* 17	⚠	B201A7350AP	OVEN (U)	1	
* 18		B203P7350AP	ANTENNA	1	
* 19	⚠	B30075000AP	LOWER HINGE	1	
* 20	⚠	B30204830AP	DOOR HOOK	1	
* 21		B31374830AP	HOOK SPACER B	1	
* 22		B31384830AP	HOOK SPACER C	1	
* 23		2Z-9DOA.S	FAN MOTOR	1	(AC,24W,SINGLE)
* 24		B400B7350AP	AIR FILTER FLAME	2	
* 25		B40085950AP	FAN	1	
* 26		B401W7350AP	VENTILATION FAN MOTOR	1	(115W)
* 27		B40245000AP	EXHAUST GUIDE A	1	
* 28		B40255000AP	AIR GUIDE A	1	
* 29		B40265000AP	AIR GUIDE B	1	
* 30		B40315000AP	AIR GUIDE C	1	
* 31		B41125000AP	FAN MOTOR BRACKET B	1	
* 32		B41445000AP	ORIFICE	1	

(S-735 APH)

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
* 33		B41577350AP	FAN BRACKET A	1	
* 34		B42175000AP	COVER	1	
* 35	⚠	B600B7350AP	H.V.TRANSFORMER	1	(1.5KVA)
36		A601L5150AP	TEMP SENSOR	1	
* 37		B60307080AP	INCANDESCENT LAMP	3	(20W)
* 38		B60375000AP	CAPACITOR BRACKET	1	
* 39		B60485000AP	OVEN LAMP COVER B	1	
* 40		B60735000AP	OVEN LAMP COVER	1	
* 41		B60746030AP	OVEN LAMP BRACKET	1	
* 42	⚠	B60905770AP	H.V.CAPACITOR	1	(0.951 μ F,AC2000V)
43	⚠	ANE61424L0AG	MICROSWITCH	1	(V-16G-3C26) PRIMARY LATCH SWITCH
44	⚠	A61425180AP	MICROSWITCH	1	(L-3C2-2) SECONDARY LATCH SWITCH
45		A61446030AP	ANTENNA MOTOR	1	(2.5W)
* 46	⚠	B61456210AP	THERMAL CUTOUT	1	(FOR MAGNETRON)
47	⚠	A61524210AP	SOCKET	3	
48	⚠	ANE6178-5R0	MICRO SWITCH	1	(L-2C2-MR) SHORT SWITCH
49	⚠	ANE6202X00AP	DIODE,SI	1	
* 50	⚠	B62307050AP	FUSE	1	(15A)
51		A62314000AP	FUSE HOLDER	1	
* 52		B63177350AP	GLASS PLATE HOLDER	1	
* 53		B64377350AP	GLASS PLATE	1	
54		A65675130AP	THERMAL CUTOUT B	1	(FOR VENTILATION)
* 55		B65945000AP	MOTOR COVER	1	
* 56		B66037350AP	COOK TOP LAMP BRACKET	1	
* 57		B66987350AP	CAPACITOR	1	(6 μ F,250V)
58		XYF4+AF8	SCREW	2	(4X8) FOR LOWER HINGE
* 59	⚠	B900C7350AP	AC CORD W/PLUG	1	(120V)
60		XTB3+28BFN	SCREW	2	MQSV1056H,NN-2555A,NN-2555C,MQSV1056HC (3X28) FOR GRILL
60		XTB3+28BFZ	SCREW (BLACK)	2	MQSV1056E,NN-2505A,NN-2505C (3X28) FOR GRILL
* 61	⚠	2M210-M1E	MAGNETRON	1	
62		XTC4+10BC	SCREW	10	MQSV1056E,NN-2505A,NN-2505C (4X10) FOR BASE
62		XTC4+10BC	SCREW	10	MQSV1056H,NN-2555A,NN-2555C,MQSV1056HC (4X10) FOR BASE
63		XTC4+10BFZ	SCREW (BLACK)	12	MQSV1056E,NN-2505A,NN-2505C (4X10) FOR CABINET BODY
63		XTC4+10BC	SCREW	12	MQSV1056H,NN-2555A,NN-2555C (4X10) FOR CABINET BODY
64		XTT4+12BFZ	SCREW (BLACK)	1	MQSV1056E,NN-2505A,NN-2505C (4X12)FOR CABINET BODY

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
64		XTT4+12BC	SCREW	1	MQSV1056H,NN-2555A,NN-2555C,MQSV1056HC (4X12) FOR CABINET BODY
65		XTWANE4+10RU	SCREW	4	(4X10) FOR MAGNETRON
66		XTWANE4+12BN	SCREW	2	MQSV1056H,NN-2555A,NN-2555C,MQSV1056HC (4X12) FOR ESCUTCHEON BASE
66		XTWANE4+12BZ	SCREW (BLACK)	2	MQSV1056E,NN-2505A,NN-2505C (4X12) FOR ESCUTCHEON BASE
* 67		B692Y7350CP	NOISE FILTER (U)	1	MQSV1056HC,NN-2505C,NN-2555C
*		B08877050AP	CAVITY SPRAY PAINT	1	SPRAY CAN, FOR REPAIR OF PAINTED OVEN CAVITY
*		B08877000AP	TOUCH-UP PAINT	1	BOTTLE WITH BRUSH, FOR REPAIR OF PAINTED OVEN CAVITY

DOOR ASSEMBLY

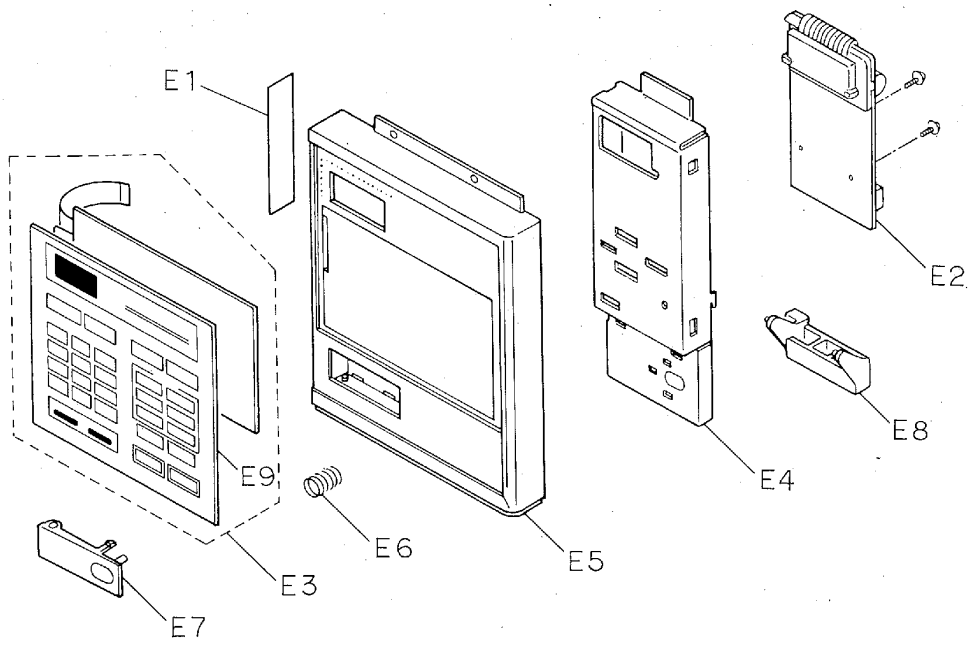


(S-735 APH)

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
* D1		B02454180AP	DHHS LABEL	1	MQSV1056E,MQSV1056H,NN-2505A,NN-2555A
* D1		B04114180CP	CSA LABEL	1	NN-2505C,NN-2555C,MQSV1056HC
D2		XTBANE3+8BZ	SCREW (BLACK)	4	(3X8)
* D3	⚠	B302A7350AP	DOOR A (U)	1	MQSV1056E,NN-2505A,NN-2505C
* D3	⚠	B302A7350HAP	DOOR A (U)	1	MQSV1056H,NN-2555A,NN-2555C,MQSV1056HC
* D4	⚠	B30065000AP	UPPER HINGE	1	
* D5	⚠	B302K7350AP	DOOR E (U)	1	MQSV1056E,NN-2505A,NN-2505C
* D5	⚠	B302K7350HAP	DOOR E (U)	1	MQSV1056H,NN-2555A,NN-2555C,MQSV1056HC
* D6		B30187050AP	DOOR KEY	1	
* D7		B30214000AP	DOOR KEY SPRING	1	
* D8	⚠	B30857350AP	DOOR C	1	MQSV1056E,NN-2505A,NN-2505C
* D8	⚠	B30855000HAP	DOOR C	1	MQSV1056H,NN-2555A,NN-2555C,MQSV1056HC
* D9	⚠	B31457350AP	DOOR SCREEN A	1	

NOTE 2 : Please order DHHS label or CSA label together.

ESCUTCHEON BASE ASSEMBLY



(S-735 APH)

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
* E1		B00077350AQ	NAME PLATE	1	MQSV1056E
* E1		B00077350HAQ	NAME PLATE	1	MQSV1056H
* E1		B00077350AP	NAME PLATE	1	NN-2505A
* E1		B00077350HAP	NAME PLATE	1	NN-2555A
* E2		B603L7350AQ	D.P.CIRCUIT (U)	1	MQSV1056E,MQSV1056H,MQSV1056HC RTL (W/COMPONWNT)
* E2		B603L7350AP	D.P.CIRCUIT (U)	1	NN-2505A,NN-2505C,NN-2555A,NN-2555C RTL (W/COMPONENT)
* E3		B630Y7350AQ	MEMBRANE SWITCH (U)	1	MQSV1056E (W/ESCUTCHEON SHEET)
* E3		B630Y7350HAQ	MEMBRANE SWITCH (U)	1	MQSV1056H,MQSV1056HC (W/ESCUTCHEON SHEET)
* E3		B630Y7350AP	MEMBRANE SWITCH (U)	1	NN-2505A,NN-2505C (W/ESCUTCHEON SHEET)
* E3		B630Y7350HAP	MEMBRANE SWITCH (U)	1	NN-2555A,NN-2555C (W/ESCUTCHEON SHEET)
* E4		B800X7350AP	BRACKET	1	
* E5		B80347350AP	ESCUTCHEON BASE	1	MQSV1056E,NN-2505A,NN-2505C
* E5		B80347350HAP	ESCUTCHEON BASE	1	MQSV1056H,NN-2555A,NN-2555C,MQSV1056HC
* E6		B80375950AP	COOK BUTTON SPRING	1	
* E7		B80727350AP	DOOR OPENING BUTTON	1	MQSV1056E,NN-2505A,NN-2505C
* E7		B80727350HAP	DOOR OPENING BUTTON	1	MQSV1056H,NN-2555A,NN-2555C,MQSV1056HC
* E8		B82567350AP	DOOR OPENING LEVER	1	
* E9		B83377350AQ	ESCUTCHEON SHEET	1	MQSV1056E

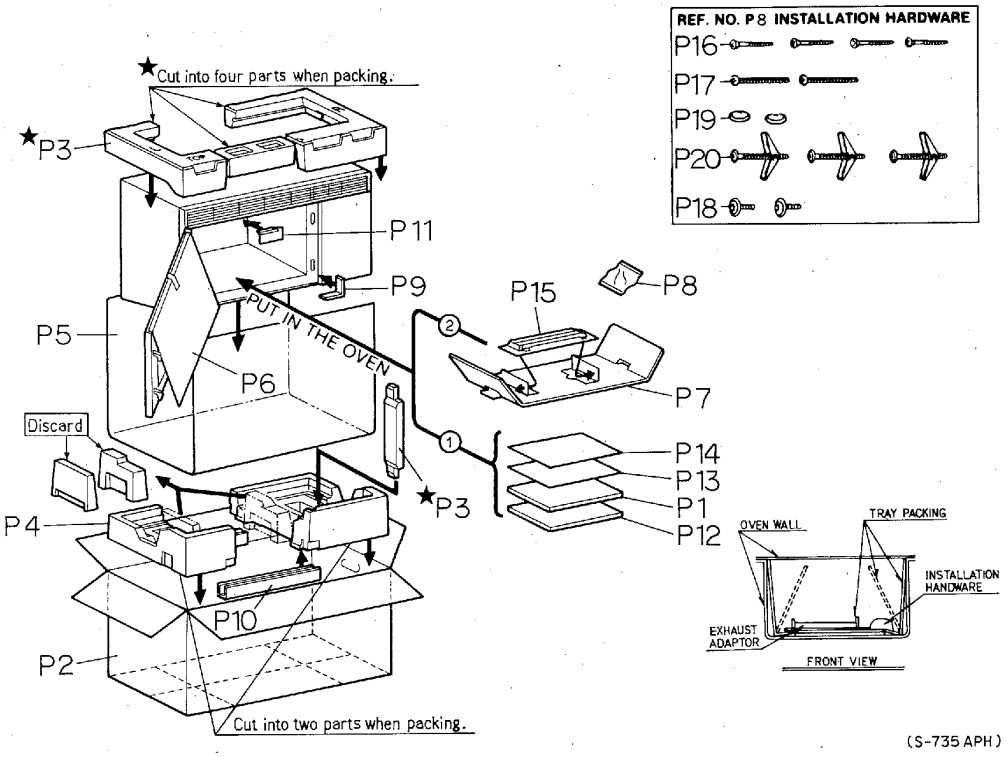
(S-735 APH)

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
* E9		B83377350HAQ	ESCUTCHEON SHEET	1	MQSV1056H,MQSV1056HC
* E9		B83377350AP	ESCUTCHEON SHEET	1	NN-2505A,NN-2505C
* E9		B83377350HAP	ESCUTCHEON SHEET	1	NN-2555A,NN-2555C

NOTE 3 : Please order name plate together.

(S-735 APH)

PACKING AND ACCESORIES



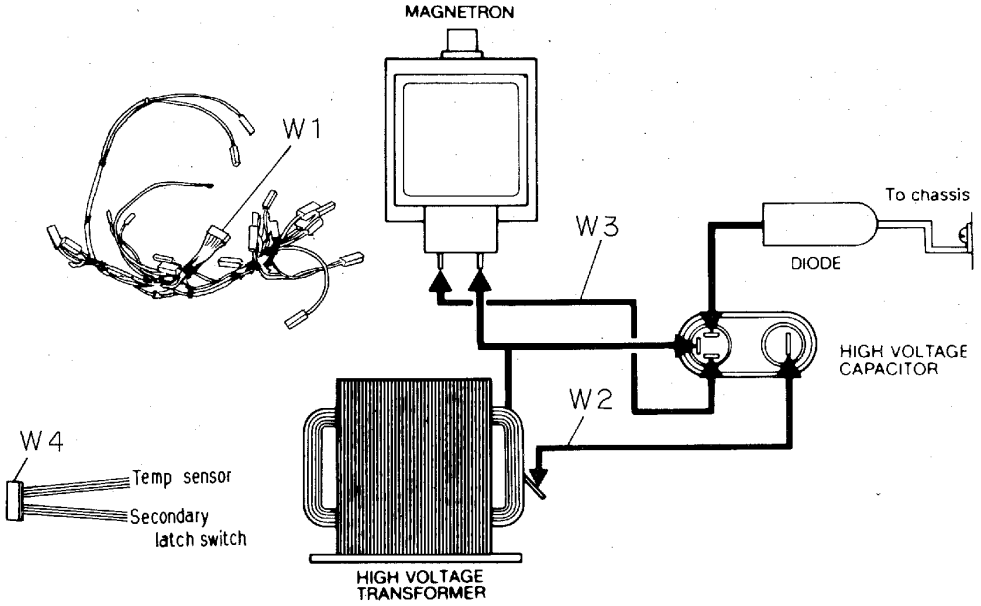
(S-735 APH)

* P1		B00037350AQ	INSTRUCTION BOOK	1	MQSV1056E,MQSV1056H
* P1		B00037350AP	INSTRUCTION BOOK	1	NN-2505A,NN-2555A
* P1		B00037350CP	INSTRUCTION BOOK	1	NN-2505C,NN-2555C
* P1		B00037350CQ	INSTRUCTION BOOK	1	MQS1056HC
* P2		B01027350AQ	PACKING CASE,PAPER	1	MQSV1056E,MQSV1056H,MQSV1056HC
* P2		B01027350AP	PACKING CASE,PAPER	1	NN-2505A,NN-2505C,NN-2555A,NN-2555C
* P3		B01047350AP	UPPER FILLER	1	
* P4		B01057350AP	LOWER FILLER	1	
* P5		B01065130AP	VINYL SHEET	1	
* P6		B01075000AP	DOOR SHEET	1	
* P7		B01085000AP	TRAY PACKING	1	
* P8		B011F6030AP	INSTALLATION HARDWARE	1	
* P9		B01455130AP	DOOR SPACER	1	(CORNER)
* P10		B01485000AP	BASE REINFORCEMENT	1	
* P11		B01456030AP	DOOR SPACER	1	(HINGE)
* P12		B03137350AP	INSTRUCTION BOOK B	1	MQSV1056E,MQSV1056H,NN-2505A,NN-2555A
* P12		B03137350CP	INSTRUCTION BOOK B	1	NN-2505C,NN-2555C,MQSV1056HC
* P13		B04247350CP	INSTRUCTION BOOK	1	NN-2505C,NN-2555C (FRENCH)
* P13		B04247350CQ	INSTRUCTION BOOK	1	MQS1056HC (FRENCH)
* P14		B04316030AP	TEMPLATE	1	
* P15		B400K5010AP	EXHAUST ADAPTOR	1	
* P16		XMS5+45FY	WOOD SCREW	4	(5X45)

(S-735 APH)

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
* P17		XSN5+80FU	SCREW	2	(5X80)
* P18		XTWANE4+12B	SCREW	2	(4X12)
* P19		XWPANE5BSU	FLAT WASHER	2	
* P20		ANE061CR20AP	TOGGLE BOLTS	3	(3/16INCH)

WIRING MATERIAL



(S-735 APH)

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
* W1		B030A7350AP	LEAD WIRE HARNESS	1	MQSV1056E,MQSV1056H,NN-2505A,NN-2555A
* W1		B030A7350CP	LEAD WIRE HARNESS	1	NN-2505C,NN-2555C,MQSV1056HC
* W2		B03505690AP	LEAD WIRE	1	
* W3		B03515690AP	LEAD WIRE	1	
* W4		B03537350AP	LEAD WIRE	1	

(S-735 APH)

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
REF NO. 68 NOISE FILTER (U)					
C1		ECQU2A104MN	POLYESTER CAPACITOR	1	0.1MF, 250V, ±20%
C2,3	⚠	ECKDNS472MEX	CERAMIC CAPACITOR	2	0.0047MF, 250V, ±20%
L1		A621A7600CP	FILTER COIL	1	
R1		ERD25FJ564S	CARBON FILM RESISTOR	1	560kΩ, 1/4W, ±5%
ZNR2,3		ERZC10DK112W	VARISTOR	2	

DIGITAL PROGRAMMER CIRCUIT

PARTS LIST NOTE: Items marked * are supplied by MMCA. (U.S.A.)

Ref. No.	Part No.	Description	Pcs/ Set	Remarks
BZ1	AEFB22EP2002	BUZZER	1	2.0KHZ
C10	ECA1HM102E	ELECTROLYTIC CAPACITOR,AL	1	1000μF/35V/20%
C11	ECA1HM101B	ELECTROLYTIC CAPACITOR,AL	1	100μF/35V/20%
C13	ECEA1CKA100B	ELECTROLYTIC CAPACITOR,AL	1	10μF/16V/20%
C14,26	AECF50F104Z	CERAMIC CAPACITOR	2	0.1μF/50V/ −20%+80%
C18,19,20 21,23,24,25	ECBT1E103ZF5	CERAMIC CAPACITOR	7	0.01μF/25V/ −20%+80%
C22	ECEA1HKA2R2B	ELECTROLYTIC CAPACITOR,AL	1	2.2μF/50V/20%
CN1	AEEMMD15509W	CONNECTOR	1	9PIN
CN2	AEEMMF05507W	CONNECTOR	1	7PIN
CN4	AEEMMF01D05W	CONNECTOR	1	5PIN
CN5	AEEM09FDZBTM	CONNECTOR	1	
CX1	EF0GC4194T4	CERAMIC RESONATOR	1	4.19MHZ
D10,11	AEDNERA1502	DIODE,SI	2	(0.1A)
D12,14,15,16 17,18,19	MA196-(TA5)	DIODE,SI	7	(0.1A)
D13	MA700A-(TA)	DIODE,SI	1	(0.03A)
D20	ERZC10DK471F	VARISTOR	1	
D21,22	ERZC102K112W	VARISTOR	2	
*DISP1	AEFR6CM9R	FLUORESCENT TUBE	1	
*IC1	AEIC38121058	L.S.I	1	
IC2	AN6752	IC	1	
JPR1	ERD25VJ103T	CARBON FILM RESISTOR	1	MQSV1056E, MQSV1056H, MQSV1050HC, 10KΩ,1/4W,±5%
JPR1	ERD25VJ163T	CARBON FILM RESISTOR	1	NN-2505A, NN-2555A, NN-2555C 16KΩ,1/4W,±5%
Q1	2SD2006QRTA	TRANSISTOR,SI,1.2W	1	(120MHZ)
Q2	2SA720PRTA	TRANSISTOR,SI	1	
Q6,7,8,9	2SD1991AQSTA	TRANSISTOR, SI, 400mW	4	(150MHZ)
Q10	UN4211-(TA)	TRANSISTOR, SI, 300mW	1	
R10,11	ERDS2TJ151T	CARBON FILM RESISTOR	2	150Ω,1/4W,±5%
R12,30,31, 32,38,43,44, 45,46	ERDS2TJ103T	CARBON FILM RESISTOR	9	10KΩ,1/4W,±5%
R13	ERDS2TJ472T	CARBON FILM RESISTOR	1	4.7KΩ,1/4W,±5%
R14	ERDS2TJ152T	CARBON FILM RESISTOR	1	1.5KΩ,1/4W,±5%
R26,29	ERDS2TJ102T	CARBON FILM RESISTOR	2	1KΩ,1/4W,±5%
R27,34,35	ERDS2TJ332T	CARBON FILM RESISTOR	3	3.3KΩ,1/4W,±5%
R28	ERDS2TJ333T	CARBON FILM RESISTOR	1	33KΩ,1/4W,±5%
R33,36	ERDS2TJ362T	CARBON FILM RESISTOR	2	3.6KΩ,1/4W,±5%
R47,48,52,53	ERDS2TJ104T	CARBON FILM RESISTOR	4	100KΩ,1/4W,±5%
R49	ERDS2TJ3R3T	CARBON FILM RESISTOR	1	3.3Ω,1/4W,±5%
R50	ERDS2TJ221T	CARBON FILM RESISTOR	1	220Ω,1/4W,±5%
RY1	⚠AEG5J1EM18B	POWER RELAY	1	(18V)
RY2,3,5	⚠AEBG5B18P-1	POWER RELAY	3	(18V)
RY4	⚠AEBVG-18P-0	POWER RELAY	1	(18V)
*SP1	B82847010AP	SPACER CUSHION	1	(FOR DISP)
*T1	AETP417350AP	L.V.TRANSFORMER	1	
Z1	AEXBM4X104JT	COMPOUND-RESISTOR	1	100KΩX4
ZD1	AEDZ5R6ES2T1	ZENER DIODE,SI	1	
ZD2	AEDZ24ES3T1	ZENER DIODE,SI	1	
ZD3	AEDZ3R6ES2T1	ZENER DIODE,SI	1	

Ref. No.	Part No.	Description	Pcs/ Set	Remarks

SERVICE FIXTURES AND TOOLS

EXTENSION CABLES

NOTE: To be used when repairing the DPC board assembly directly on the oven for easy access of the board.

Ref. No.	Part No.	Description	Pcs/ Set	Remarks
	AT40P005	5 pin Extension Cable	1	Cable No. 46
	AT40P007	7 pin Extension Cable	1	Cable No. 53
	AT40P009	9 pin Extension Cable	1	Cable No. 54
	AT40E006	1 pin X 6 Extension Cable	1	Cable No. 9

DPC COMMON CHECKER AND ITS CABLE

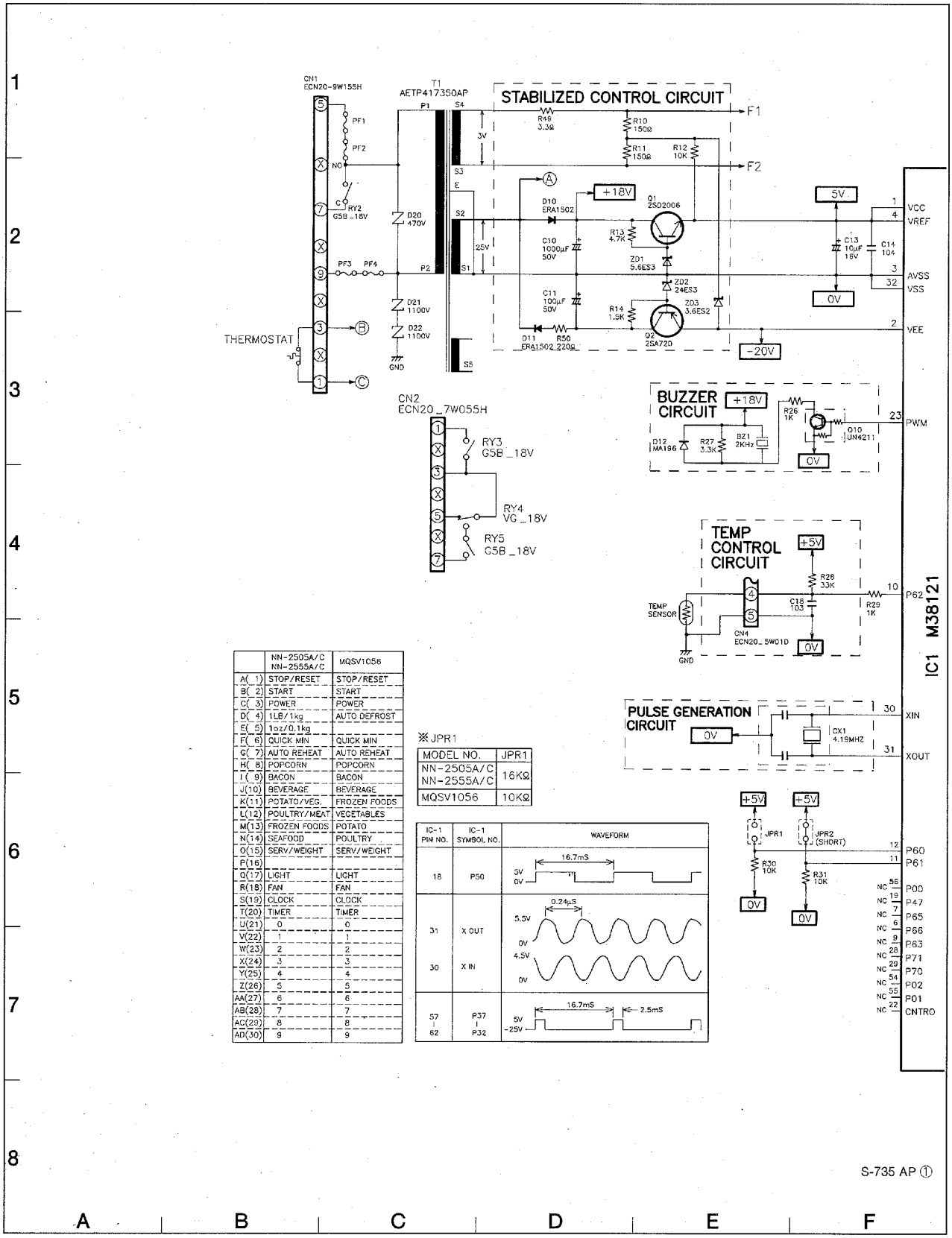
NOTE: To be used only when DPC common checker is available.

Ref. No.	Part No.	Description	Pcs/ Set	Remarks
	ANE600ZK70AP	DPC. Common Checker	1	
	AT30A7350AP	DPC. Checker Cable	1	NOTE

(S-735 APH)

DIGITAL PROGRAMMER CIRCUIT

SCHEMATIC DIAGRAM



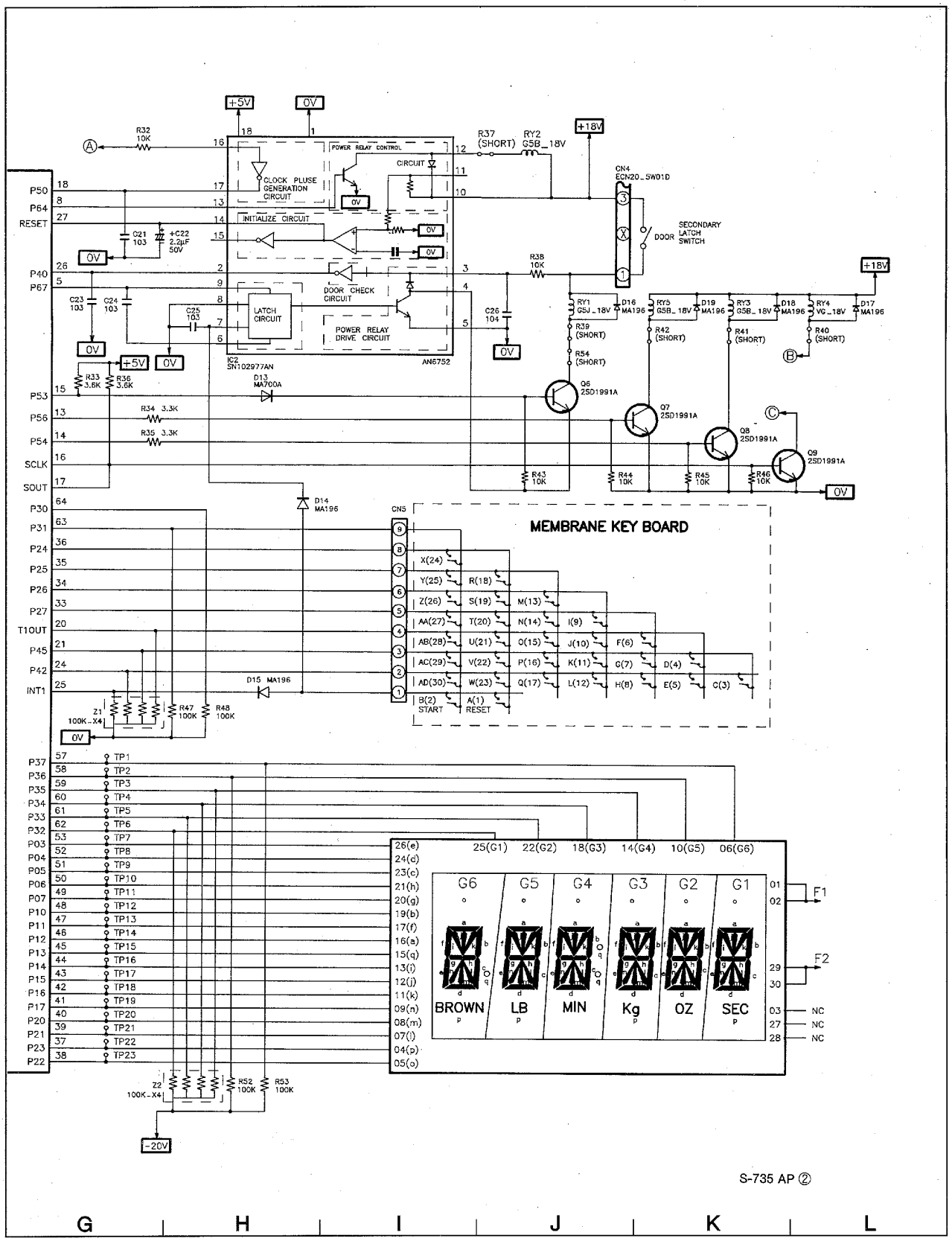
	NN-2505A/C NN-2555A/C	MQSV1056
A(_1)	STOP/RESET	STOP/RESET
B(_2)	START	START
C(_3)	POWER	POWER
D(_4)	1LB/1kg	AUTO DEFROST
E(_5)	1oz/0.1kg	
F(_6)	QUICK MIN	QUICK MIN
G(_7)	AUTO REHEAT	AUTO REHEAT
H(_8)	POPCORN	POPCORN
I(_9)	BACON	BACON
J(10)	BEVERAGE	BEVERAGE
K(11)	POTATO/VEG.	FROZEN FOODS
L(12)	POULTRY/MEAT	VEGETABLES
M(13)	FROZEN FOODS	POTATO
N(14)	SEAFOOD	POULTRY
O(15)	SERV/WEIGHT	SERV/WEIGHT
P(16)		
Q(17)	LIGHT	LIGHT
R(18)	FAN	FAN
S(19)	CLOCK	CLOCK
T(20)	TIMER	TIMER
U(21)	0	0
V(22)	1	1
W(23)	2	2
X(24)	3	3
Y(25)	4	4
Z(26)	5	5
AA(27)	6	6
AB(28)	7	7
AC(29)	8	8
AD(30)	9	9

※JPR1

MODEL NO.	JPR1
NN-2505A/C NN-2555A/C	16KΩ
MQSV1056	10KΩ

IC-1 PIN NO.	IC-1 SYMBOL NO.	WAVEFORM
18	P50	16.7mS, 5V, 0V
31	X OUT	0.24μS, 5.5V, 0V
30	X IN	4.5V, 0V
57 ~ 62	P37 ~ P32	16.7mS, 2.5mS, 5V, -25V

S-735 AP ①


+5V
0V
+18V
POWER RELAY CONTROL
CLOCK PLUSE GENERATION CIRCUIT
INITIALIZE CIRCUIT
DOOR CHECK CIRCUIT
LATCH CIRCUIT
POWER RELAY DRIVE CIRCUIT
IC2 SN102977AN
AN6752
R32 10K
R37 (SHORT)
RY2 G5B_18V
CN4 ECN20_5W01D
SECONDARY LATCH SWITCH DOOR SWITCH
R38 10K
C21 103
+C22 2.2μF 50V
C23 103
C24 103
C25 103
C26 104
RY1 G5J_18V
D16 MA196
RY5 G5B_18V
D19 MA196
RY3 G5B_18V
D18 MA196
RY4 VC_18V
D17 MA196
R39 (SHORT)
R54 (SHORT)
R42 (SHORT)
R41 (SHORT)
R40 (SHORT)
R33 3.6K
R36 3.6K
D13 MA700A
R34 3.3K
R35 3.3K
Q6 2SD1991A
Q7 2SD1991A
Q8 2SD1991A
Q9 2SD1991A
R43 10K
R44 10K
R45 10K
R46 10K
D14 MA196
D15 MA196
CN5
MEMBRANE KEY BOARD
X(24)
Y(25)
Z(26)
AA(27)
AB(28)
AC(29)
AD(30)
B(2) START
A(1) RESET
R(18)
S(19)
T(20)
U(21)
V(22)
W(23)
M(13)
N(14)
O(15)
P(16)
Q(17)
I(9)
J(10)
K(11)
L(12)
F(6)
G(7)
H(8)
D(4)
E(5)
C(3)
Z1 100K-X4
R47 100K
R48 100K
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
TP11
TP12
TP13
TP14
TP15
TP16
TP17
TP18
TP19
TP20
TP21
TP22
TP23
Z2 100K-X4
R52 100K
R53 100K
-20V
25(G1)
22(G2)
18(G3)
14(G4)
10(G5)
06(G6)
G6
G5
G4
G3
G2
G1
BROWN
LB
MIN
Kg
OZ
SEC
F1
F2
NC
NC
NC
P50
P64
RESET
P40
P67
P53
P56
P54
SCLK
SOUT
P30
P31
P24
P25
P26
P27
T1OUT
P45
P42
INT1
P37
P36
P35
P34
P33
P32
P03
P04
P05
P06
P07
P10
P11
P12
P13
P14
P15
P16
P17
P20
P21
P23
P22

S-735 AP ②